PROCEEDINGS & TRANSACTIONS

OF THE

CROYDON

NATURAL HISTORY AND SCIENTIFIC SOCIETY.

FEBRUARY 16, 1904, TO JANUARY 17, 1905.

CROYDON:

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1905.

PROCEEDINGS

OF

THE CROYDON NATURAL HISTORY AND SCIENTIFIC SOCIETY.

1904—1905.

Thirty-fifth Annual Meeting,

Held at the Public Hall, Croydon, January 17th, 1905.

The President, F. Campbell-Bayard, LL.M., F.R.Met.Soc., in the chair.

The Council's Report and the Statement of Accounts for 1904 were read and approved.

The following gentlemen were elected Officers of the Society for the ensuing year:—

President.—W. F. Stanley, F.G.S., F.R.A.S.

Vice-Presidents.—F. Campbell-Bayard, LL.M., F.R.Met.Soc.; Dr. H. Franklin Parsons, F.G.S.; W. Whitaker, F.R.S., F.G.S.

Hon. Curator.—N. F. Robarts, F.G.S.

Hon. Lanternist.—J. H. Baldock, F.C.S.

Hon. Librarian.—Alfred Roods.

Hon. Treasurer.—F. J. Townend, 11, Park Hill Rise.

Council.—R. W. Brant; J. Edmund Clark, B.A., B.Sc., F.G.S.; T. F. Clarke; H. T. Mennell, F.L.S.; Dr. T. A. Dukes, B.Sc.; Dr. H. C. Male; T. K. F. Page.

Hon. Secretary.—George W. Moore, 15, Dornton Road, South Croydon.

Anthropological and Archæological Committee.—T. F. Clarke, Lurline, Blenheim Crescent; H. C. Collyer, Breakhurst, Beddington; J. M. Hobson, M.D., B.Sc., Morland Road; A. J. Hogg, 43, Whitworth Road, South Norwood; E. Lovett, F.R.H.S., West Burton, Outram Road; A. Tarver (Secretary), 7, Stuart Road, Thornton Heath.

Botanical Committee.—J. Edmund Clark, B.A., B.Sc., F.G.S., Aysgarth, Riddlesdown Road, Purley; Miss Klaassen (Secretary), Aberfeldy, Campden Road; H. T. Mennell, F.L.S., Park Hill Rise; W. H. Morris, 1, Walpole Road; H. Franklin Parsons, M.D., F.G.S., Oakhyrst, Park Hill Rise; Mrs. Parsons, Oakhyrst, Park Hill Rise; C. E. Salmon, Clevelands, Wray Park, Reigate; E. Straker, 5, Park Lane Mansions.

Geological Committee.—W. Bruce Bannerman, F.S.A., F.G.S., The Lindens, Sydenham Road; T. F. Clarke (Secretary), Lurline, Blenheim Crescent; G. J. Hinde, Ph.D., F.R.S., F.G.S., Avondale Road; A. J. Hogg, 43, Whitworth Road, South Norwood; H. C. Male, M.D., Cromer Lodge, 74, Birdhurst Road; G. W. Moore, Bryndhurst, Dornton Road; T. K. F. Page, 9, Rosemount, Wallington; H. Franklin Parsons, M.D., F.G.S., Park Hill Rise; N. F. Robarts, F.G.S., 23, Oliver Grove, South Norwood; W. Whitaker, B.A., F.R.S., F.G.S., Freda, Campden Road.

Meteorological Committee.—F. Campbell-Bayard, LL.M., F.R. Met. Soc. (Secretary), Cotswold, Wallington; J. Edmund Clark, B.A., B.Sc., F.G.S., Aysgarth, Riddlesdown Road, Purley; Thos. Cushing, F.R.A.S., Chepstow Road; Baldwin Latham, M.I.C.E., Duppas House.

Microscopical Committee.—Rev. R. K. Corser, 57, Park Hill Road; T. A. Dukes, M.B., B.Sc., 16, Wellesley Road; D. E. Goddard, Eaglehurst, Wallington; Mrs. H. Hall, Colleendene, Addiscombe Grove; E. Lovett, F.R.H.S., West Burton, Outram Road; L. Reed, F.C.S., Hyrst Hof, South Park Hill; Miss C. Ward (Secretary), 42, Temple Road.

Museum Committee.—J. M. Hobson, M.D., B.Sc., Morland Road; L. Stanley Jast, Central Library, Town Hall; E. Lovett, F.R.H.S., West Burton, Outram Road; H. T. Mennell, F.L.S., Park Hill Rise; H. Franklin Parsons, M.D., F.G.S., Park Hill Rise; N. F. Robarts, F.G.S. (Secretary), 23, Oliver Grove, South Norwood; W. W. Topley, 46, Friends' Road; W. Whitaker, B.A., F.R.S., F.G.S., Freda, Campden Road.

Photographic Committee.—J. H. Baldock, F.C.S. (Lanternist), Overdale, St. Leonard's Road; H. D. Gower (Portfolio Secretary), 55, Benson Road; R. F. Grundy, 8, Havelock Road; A. Roods, 67, Thornhill Road; A. J. Weightman, Endsleigh, 11, Chepstow Road; J. M. Hobson, M.D., B.Sc., 1, Morland Road; E. A. Fella, 48, Parsons Mead; J. G. Lincoln (Secretary), 1, Bank Buildings.

Zoological Committee.—J. H. Baldock, F.C.S., Overdale, St. Leonard's Road; H. D. Gower, 55, Benson Road; Alfred Roods, 67, Thornhill Road; A. Tarver, 7, Stuart Road, Thornton Heath; P. B. Nash, 135, Melfort Road, Thornton Heath.

Council's Report, 1904.

The Council regrets to have to report that the number of our members has undergone a further reduction during the past year, and that against 201 at this time last year the number is now 190, *i. e.* 179 adult and 11 junior.

We have lost three members by death:—Mr. W. Tyndall, of Reigate, on January 13th last. Mr. R. McLachlan, whose name will be specially known to entomologists as one of the joint editors of the 'Entomologists' Monthly Magazine,' and by his contributions to the knowledge of the British Neuroptera. He had been a member of this Society since 1886, and died on May 23rd, 1904. Mr. W. C. Wissenden died December, 1904.

Thirty-one members have resigned, chiefly owing to their leaving the neighbourhood, and amongst them we sustain a great loss in Mr. W. Murton Holmes, to whom, on many occasions, we have been greatly indebted for papers. As botanist, geologist, microscopist, or zoologist he was equally ready, and frequently helped us at the ordinary meetings, as well as in sectional work. Fortunately, Mr. Holmes has not gone very far, and may attend occasional meetings. We have 20 new members—17 adult and 3 junior.

At the commencement of the year a special circular was drawn out for circulation to new-coming residents for the purpose of introducing the Society and its objects to their notice, and inviting membership. The issue of this will be continued.

The ordinary meetings have been well attended, and some very interesting papers read, including one on the Croydon Bourne Flows, by Mr. Baldwin Latham, F.G.S., M.I.C.E., which is one of the first detailed accounts of the Bourne, if not actually the first. It gave the statistics of the flow up to date, and being a matter of great interest at the time, the Council considered it should be published at once, and therefore availed itself of Mr. Baldwin Latham's kindness to obtain the paper for printing in the last number of the 'Transactions.' Mr. Latham issued copies of the paper at the meeting in May.

Mr. Campbell-Bayard presented a polariscope to the Society for use with the lantern, and our thanks are due to him for this valuable acquisition. The polariscope was exhibited at the September meeting.

Several papers of local interest have been read, and will appear in the 'Transactions' for the year.

Excursions.

Altogether about a dozen excursions were made, of which two were whole-day excursions, *viz.* on Whit-Monday to Holmwood,

Leith Hill, and Wotton—Wotton House being visited by the kind permission of Mr. W. Evelyn; and on August 1st Bank Holiday to Ightham, Ightham Mote, and Tonbridge.

Particulars of all the excursions will duly appear.

Sections.

With the exception of the Anthropological and Zoological Sections, which have been without Hon. Secretaries, all the sections have had meetings, and have been doing very useful work.

The Botanical Section has held a meeting in conjunction with the Microscopical, and one alone, and has also had several special evening excursions.

The Geological Section has had regular monthly meetings, including one with the Microscopical Section, and organized some extra excursions.

The Microscopical Section held three meetings, one alone, and two in conjunction with the Botanical and Geological Sections, respectively.

The Photographic Section, notwithstanding being without a duly appointed Secretary, held three meetings, having been assisted by Mr. Baldock, though at great inconvenience. The portfolios have not been able to be sent out so regularly as before.

The Meteorological Section has issued the rainfall returns with its accustomed regularity, and the report analysing these will be read in due course.

The Museum Committee reports having arranged to lend specimens, as authorized by the Council, for educational purposes. The museum-case in the Town Hall appears to attract attention, and thus answers the purpose for which it was placed there. About eighty-two specimens have been added during the year, exclusive of one hundred Roman coins from the find in Croydon, lent by the Croydon County Council. Loans of archæological and zoological specimens are much needed.

The Zoological Section has been without a Secretary, and it is regretted that no report is to hand.

The Annual Soirée, owing to financial reasons, was not held; but in lieu of it the President provided a lecture, which was given by Mr. A. L. Lewis, on "British Stone Circles" on December 12th.

The need of appointing Secretaries to the Anthropological, Photographic, and Zoological Sections if any work is to be done in these branches is strongly pointed out, and it is hoped that some members will come forward to undertake the duties.

The thanks of the Council are given to all those who, during the past year, have in any capacity assisted in the work of the Society.

The President's Address.

Ladies and Gentlemen,

In addressing you this evening, I feel that, though I have done my best, I have been able to do but little for the Society during the past year, and even for that little my grateful thanks are due to the Council, and also to Mr. Moore, who have in every way so actively supported me.

In my address this evening, I propose, with your permission, to give you my own views as to the aims and work in the future of our Society, which is within three months of commencing its thirty-fifth year.

The Aims and Work in the Future of a Natural History Society.

In considering this subject, and looking through the past history of our Society, that glorious old hymn, "Change is our portion here," was very forcibly brought to my mind. Our Society held its inaugural meeting on April 6th, 1870, with a very fine address by Dr. Lee, and it was joined by 116 members in its first year. This number gradually increased until it reached the maximum of 303 on January 13th, 1892, when the number gradually declined until, at the Annual Meeting on January 19th, 1904, it was only 201. We ask ourselves what is the reason of this rise and decline, for we find that in 1871 the population of Croydon was 55,652 persons, in 1891 it was 102,695 persons, in 1901 it was 133,885 persons, and at the middle of 1904 it is reckoned to be 144,419 persons. The neighbouring parishes have also grown in population. It will be noticed that between 1870 and 1892, when the population of Croydon had doubled, the membership of the Society had rather more than doubled; but that between 1892 and 1904, when the population of Croydon had increased 41,724 persons, the membership of the Society had decreased by one-third. Let us look further. The University Extension Movement, which began with Cambridge in 1872, organized series of lectures followed by examinations. This system took some years before it got into working order and became known, and I believe I am not far wrong when I state that at the time our Society reached its high-water mark in 1892, the competition of the University Extension Lectures began to be felt. It will be noticed that these lectures are organized on much the same lines as our own meetings, and the lecturers, like our own members, confine themselves to their own special subjects; but there is this

difference, that the extension lecturers, unlike our own members, cater for the young, and then there is the examination at the end of the course, which has attractions for the young. The result of this is that the young man or young woman passing these examinations is very apt to consider that they know everything about the subject, and consequently do not care to join a society which, rightly or wrongly (I think rightly), considers that no one can know too much about a subject, and that a person's education is not finished until he is dead.

The stress of modern life has also something to do with this decline, for after a hard day's work one does not willingly turn out in the evening. As, however, one gets on in life, and other interests grow around us, then perhaps he or she will join the natural history society, if it is still in existence.

It is this competition from the University Extension lectures, and also to a certain degree from the new technical schools and colleges, which is injuring the natural history societies, and which has already destroyed several of them.

It is easy to state all this, but it is difficult to find a cure, though I cannot help thinking that perhaps the remedy is closer at hand than we are aware of. There are three points that I wish to emphasize more especially, and they are :—

1. The most important of all, *viz.* the incorporation of the Society under the Companies Acts as a scientific society. I put this first of all because, as you are all well aware, that if anything happens to a company and it has to go into liquidation, the shareholders are only liable for the uncalled portion of their shares. As you know, our Society is not incorporated, and consequently if anything went wrong, and the Society was dissolved owing any debt, this debt could be recovered from the members existing at the time of the dissolution. If it was incorporated as a scientific society, in which there are no shareholders, if anything happened the property belonging to the Society would only be liable, and not the individual members. This is one great advantage of incorporation. Another is the advantage of sueing and being sued. This power would enable our Treasurer to recover the subscriptions at law, a power which is most valuable to possess, though of course it must be sparingly exercised. I may mention as a fact that all the great societies make use of this power. The advantage of being sued is not perhaps so great, but still the advantage to a creditor having the Society to sue, and not any individual member or members, is very advantageous both to the creditor and to the members. I say nothing as to the added dignity of incorporation, for this is obvious to anyone who considers the subject carefully. With reference to the cost of incorporation, I have

made some enquiries, and have been informed that it is very small, and Mr. Moore has informed me that it would be about £30.

2. That the members of the Society should lay themselves out to give lectures elsewhere if called upon, of course on terms. It is an open secret that the Council have been asked to designate gentlemen willing to give lectures on certain subjects. The Council have willingly done what they were asked; but what I particularly wish to say is, would it not be desirable for the Council to announce this fact to all the world? We have, as you all know, some of the most eminent persons in the United Kingdom amongst our members, and I feel sure that these ladies and gentlemen would only be too pleased to place their great knowledge at the service of others if they were approached in the proper way.

3. That the members should endeavour to attend the sectional meetings in greater numbers, for it is very disheartening to our eminent members that, when they have taken a great deal of trouble over some subject, there are so few present to listen to them and ask them questions.

4. That at the ordinary meetings the Council should see that the papers read are the best of their kind. I wish to emphasize this more particularly, for it is these papers which alone appear in the 'Transactions,' and it is by the 'Transactions' alone that the Society is judged by the public at large. For the last two or three years this has been the aim of the Council. The cost has certainly been heavy, but what has been the result? I do not like to prophesy, but I cannot help thinking that the decline in the membership will shortly be arrested, and that the Society will again increase. You perhaps will ask why this should be. I think that the answer is, that a Society such as ours caters for two kinds of members, the one kind whom I will denominate as the workers, and the others who, though they take an interest in the Society and support it by their contributions, and would probably do more if asked, are unable to work owing to age and other occupations. These members carefully look through and read the 'Transactions.' If they are good, these members show them with pride to their friends, and we are indebted to them for several new members. I need hardly specify what they do if the 'Transactions' are poor. They lose heart, and cease to take any interest, and finally resign. Ladies and gentlemen, we cannot afford to lose them. They are one of our great mainstays. The workers are comparatively few, probably not above one-fourth of our members are workers; but our other members are proud of the workers, and the better the work the greater becomes the reward of the work in the increasing number of those who join for the purpose of helping the workers, dare I

say it, with their contributions to enable them to do more. In this matter I can myself speak feelingly, for without the contributions so willingly given to the Meteorological Section, it would have been impossible to continue the rainfall work. All honour, therefore, I say, to those who contribute to the funds of the Society to enable those who are willing to work to do the work they have set for themselves, without anxiety as to how it is to be paid for.

One of the greatest advantages which a natural history society possesses over the University Extension Lectures and the new technical schools and colleges is the organization of excursions to neighbouring places of interest. These excursions have always been a great feature with natural history societies, and their usefulness is universally acknowledged. They are usually undertaken by the different sections for the purpose of studying the features of the country appealing to the members of the section; and there are also general excursions open to all the members without distinction. It has always seemed to me a great pity that a short paper detailing the results of each excursion is not included in the 'Transactions.' Such papers would be extremely valuable after a time, for as the excursions do not take place to the same spot every year, a comparison of the changes which have taken place since the last excursion should prove of very great value. Such papers would show the appearance and disappearance of geological sections, of plants, of insects, of springs, of old buildings, and other interesting features of the district. The value of these accounts would be greatly enhanced if they could be illustrated by our photographers. The excursions are in charge of some member, who is supposed to have gone over the ground beforehand, and to be able to point out to the persons attending the points of interest to be noted. How much more interested the persons attending would be, if the member conducting the excursion could have had a paper in his hand showing what was observed on a previous occasion, but which has now been altered, or has wholly disappeared. I am aware that some short, may I say very short, accounts of the excursions appear in the reports made by the different sections to the President, but these short reports cannot, as you are all aware, quite convey what would very naturally be more amplified if put in the form of a paper.

I must now conclude my remarks, which I fear are rather dry and wearisome, with the hope that, whether they may be considered right or wrong, they may at least be productive of some ideas which will lead to the rehabilitation of such societies as have become extinct, and to the increase of the prosperity of our own Society, in which we are all so deeply interested.

British Association.

Report of the Conference of Delegates of Corresponding Societies at Cambridge, August, 1904.

(Read Nov. 15th, 1904.)

Following the direction given at the last meeting of delegates at Southport, 1903, reported in the last issue of our 'Proceedings,' 1903–4, p. x, an Organizing Committee was formed from members present to endeavour to discover what local scientific work could be best done by the separate societies who were represented at the Conference. There were three or four reports only made, leaving the evidence that little interest had been taken in this recommendation of the meeting. On the subject of higher education, strongly recommended, little action had been taken.

The proposition of the desirability that local museums for natural history, antiquarian, and geological collections should be made was again pressed forward, conversationally.

It was proposed, and supported, that it is desirable that kindred scientific societies should be associated with the British Association Corresponding Societies, although such societies should *not* publish reports of their proceedings if the funds of these societies were devoted to the formation of museums or other important scientific work.

The Chairman (Principal Griffiths, of Cardiff) suggested that it is very desirable that a general journal of the work done by the Corresponding Societies should be published monthly.

He proposed that a fund might be formed by the members of the Corresponding Societies at the rate of five shillings for every fifty members in the separate societies. It was suggested that this journal would correlate the work of the several societies, and give direction for concerted action.

The matter was left open for consideration.

One objection made was that the cost of forming a museum absorbed all the spare funds of many societies, and that few societies could afford such a subscription as that mentioned.

A long discussion was taken upon the desirability of reports of proceedings of all learned societies being printed of a uniform size, a principle said to be adopted in U.S.A. The size that the Chairman selected as the most appropriate was that of our own 'Proceedings.'

Wm. F. Stanley.

Summary of Proceedings.

Excursions.

January 13*th.*—Woldingham and the Bourne. Conductor, Mr. W. Whitaker, F.R.S.

April 16*th.*—Banstead Wood. Conductor, Mr. W. Whitaker, F.R.S.

April 18*th*.—New Cross Gate. Conductor, Mr. N. F. Robarts, F.G.S.

April 30*th*.—Kew Gardens. Conductor, Mr. H. T. Mennell, F.L.S.

May 14*th*.—Beddington Caves and Subway. Conductor, Mr. T. K. F. Page.

On Saturday, May 14th, by the kind permission of Mr. Trollope, about thirty members of the Society inspected the sand caves close by the Plough Inn, Beddington Lane. They are cut into the Thanet sand deposit which forms the hill on which is placed the new cemetery of Beddington and Wallington. The larger of the two caves consists of a tunnel some ten feet or so in diameter, whose main branch runs some three hundred feet or so into the hill. They are apparently of artificial origin, and it has been suggested that this tunnel formed part of a passage, largely subterranean, which connected a Roman villa situated on the flat land, now occupied by the Croydon sewage farm, with the Roman fortified camp of Noviomagus placed on the Woodcote Hill, such passage being intended for use in time of danger when the dwellers on the plain would desire to seek the greater safety of the military camp on the uplands.

After leaving the caves, the party paid short visits to the cutting in Sandy Lane and to the Almshouses in Bute Road; and then, at the kind invitation of the President, took tea in his garden at Wallington, and examined with respect and awe the numerous scientific contrivances which he has in use there to catch and record the fleeting vagaries of the English weather.

May 19*th*.—Botanical. Mr. Lloyd's Garden, Coombe Wood. Conductor, Dr. Franklin Parsons, F.G.S.

May 23*rd*, Whit Monday (whole day).—Holmwood, Leith Hill, Wotton, and Dorking. Conductor, the President.

This excursion was favoured by good weather, and a good number of members attended. On arriving at Holmwood Station the party went across fields to Anstiebury, the site of an old Roman camp, the traces of which are clearly defined. On the way some water was passed, but all attempts to obtain Mollusca were in vain. From Holmwood to the borders of Leith Hill past Coldharbour the route lay over the Wealden Beds, but on passing through the latter place the change to the Lower Greensand (Hythe) Beds was apparent. Some of the party went up Leith Hill by the more direct route from Coldharbour, so as to enjoy the burst of view obtainable over Surrey and Sussex by approaching the summit from the high ground to the north, while

others followed the road round through the plantation underneath the summit. The rhododendrons were well out in flower, and several yellow azaleas were seen. After mounting the hill to the foot of the tower and having lunch, the route through the wood to Friday Street was taken; and on the way several shallow pits, dug to obtain the hard silicious bands of stone for road mending, were seen. The road led through Friday Street, along by the artificially maintained stream to Wotton, where, by kind permission of Mr. John Evelyn, a visit was paid to the picture gallery and museum containing the MS. of the famous Diary and Evelyn's 'Sylvia'; also to the Rose Garden and Temple. From Wotton the road was taken to Dorking through Westcott, where tea was had. The route covered one of the most picturesque and varied parts of Surrey.

June 4th.—Grays, Essex, and Deneholes Conductor, Dr. H. C. Male, B.Sc.

On June 4th a visit was made to these well-known deneholes. The day was fortunately fine, and fourteen members joined the excursion.

On arriving at Grays Station, a walk of a mile and a half north-east brought the party to Hangman's Wood, where, in the space of a few acres, some seventy of these ancient pits are to be found.

Mr. Jonathan Seabrooke, of Grays, had kindly made all arrangements for our visit, and had provided men, windlass, ropes, candles, &c., to allow of our descending and seeing the pits.

The bottom of the pits is about eighty feet from the surface. They are excavated in the chalk, which is here covered by about fifty feet of Thanet sand, and above this by some six feet of gravel, equivalent to that of Dartford Heath.

Most of the shafts leading to these pits have now fallen in, only some four or five remaining open, the most accessible being selected for our descent.

Each complete denehole consists of a central chamber some sixteen to eighteen feet in height, which branches out into six other chambers, arranged in a double trefoil manner, the floor from end to end in some instances attaining seventy feet in length. Though originally distinct, each denehole communicating with the surface by a separate shaft, the partitions between neighbouring deneholes have in many cases been opened up, so that a number of adjoining chambers can be visited from the one shaft.

Mr. T. V. Holmes, a former President of the Essex Field Club, who with Mr. W. Cole made an extensive exploration of these pits in 1884, and again in 1887, was kind enough to accompany the

party. Mr. Holmes explained the position and extent of the excavations, and their probable use as store-houses or places of refuge, and gave reasons against their being simply ancient chalk-pits or flint workings, as has been from time to time asserted. Their age is uncertain, though it is probable, as their name suggests, that they were used as shelters in the time of the Danish invasions in the eighth and ninth centuries. They are possibly, however, of a much earlier date, tradition taking them back to Roman or Pre-Roman times.

After spending a couple of hours in exploring the pits, the members were invited by Mr. Seabrooke to tea at his house, and the remaining time was spent in rambling about his garden and interesting grounds.

A vote of thanks to Mr. and Mrs. Seabrooke was proposed by Mr. Moore for their kindness and hospitality, and the members returned to town after a pleasant day.

June 16*th.*—Botanical. Farthing Downs.

July 16*th.*—Hayes, Keston, and Holwood Park. Conductor, Dr. Franklin Parsons, F.G.S.

July 21*st.*—Botanical. Hayes Common. Conductor, Dr. Franklin Parsons, F.G.S.

August 1*st*, Bank Holiday (whole day).—Wrotham, for Ightham Mote and Tonbridge. Conductor, Mr. G. W. Moore.

As on a previous excursion to this neighbourhood, train was taken from Beckenham Junction to Wrotham, whence the party, to the number of about ten, walked to Ightham, visiting Ightham Church on the way. This church is old, dating from the twelfth century, and very interesting, but not much time was available. It contains several old brasses. Passing through Ightham village, the route followed was through Ivy Hatch, whence the road descended through an exceedingly pretty high banked lane by the side of the gardens of the Mote to the entrance. Permission had been obtained from T. C. Collyer Fergusson, Esq., to visit the house, and though there was not much time, owing to the gardener who showed the party round having to attend a local flower show, the place was found exceedingly interesting.

The house is probably the best remaining example of one of the old moated and partially fortified houses formerly existing in the country. From all accounts the original building dates back to just before 1200, and some remains of this are found in the offices. Originally built by Sir Ivo de Haut, the house passed later into the hands of Sir Robt. Brackenbury, but was restored to the De Haut family by Henry VII.

From the Mote the party went to Shipbourne, where tea was had, and thence through a pleasant woodland and field route to Tonbridge.

September 17*th.*—Fungus foray.

In addition to the above, some special excursions subsequently arranged by the Geological Section were also made, *viz.* June 20th and 24th, July 27th, and November 5th, particulars of which will be found in the Geological Section Report.

Evening Meetings.

Feb. 13*th.*—Reading of the Meteorological and Botanical Committees' Reports.

March 15*th.*—"A Chat about Surrey Churches," by Dr. J. M. Hobson, B.Sc.

April 19*th.*—"Note on the New Cross Cutting, L.B. & S.C.R.," by Mr. N. F. Robarts, F.G.S. (See Trans., Art. 12.)
Exhibition of lantern views—"A Trip to Switzerland," by Mr. C. L. Faunthorpe.

May 17*th.*—"The Croydon Bourne-Flows," by Mr. Baldwin Latham, M.I.C.E., F.G.S. (This paper was published in the 'Transactions' for 1903.)

Sept. 20*th.*—Vacation notes; and exhibition of specimens with lantern and the polariscope presented by the President, Mr. F. Campbell-Bayard, F.R.Met.Soc. (See Trans., Art. 13.)

Oct. 18*th.*—"Description of some Fossils from a Croydon Garden," by Dr. G. J. Hinde, F.G.S. (See Trans., Art. 15.)
"Some Surrey Wells," fourth contribution, by Mr. W. Whitaker, F.R.S. (See Trans., Art. 14.)

Nov. 15*th.*—Report of British Association Meeting at Southport, by Mr. W. F. Stanley, F.G.S. (See 'Proceedings,' p. xlv.)
Notes on "Bermondsey Abbey" (illustrated by lantern-slides), by Mr. N. F. Robarts, F.G.S. (See Trans., Art. 16.)

Dec. 20*th.*—Paper on the "Economy of Growing Canadian Poplars on Waste Lands for the Manufacture of Paper," by Mr. W. F. Stanley, F.G.S. (See Trans., Art. 17.)
"Notes on a Section of Woolwich and Reading Beds, New Cross Gate," by Mr. N. F. Robarts, F.G.S. (See Trans., Art. 18.)
"Day Darkness in the City, 1897–1904," by Mr. J. E. Clark, B.A., B.Sc.

Reports of Sections for 1904.

Botanical Committee.

The Botanical Committee during 1904 have continued the investigation of the flora of the commons near Croydon, have exhibited botanical specimens at the Society's ordinary meetings, and added specimens to the herbarium. A joint meeting with the Microscopical Section has been held, and excursions have been made on Saturday afternoons and Thursday evenings.

Taking the first of these subjects:—A few additions have been made during the year to the lists of the flora of the commons near Croydon, the most notable being the maiden pink (*Dianthus deltoides*) on Shirley Hills—an old record believed to have been lost, but still present in small quantity; and *Rosa spinosissima*, reported by Mr. J. E. Clark, from Coxley Plantation, Riddlesdown, very near to an old recorded but lost locality for the plant. The numbers at present stand:—

Hayes and West Wickham Commons	342	species.
Keston Common	277	,,
Shirley Hills	184	,,
Croham Hurst	255	,,
Mitcham Common	461	,,
Riddlesdown	101	,,
Worms Heath	52	,,
Farthing Down	107	,,

With regard to the joint meeting of the Botanical and Microscopical Sections, it was felt to be a decided success, which should be repeated this year. It was held on Thursday, March 24th. An address on "Mosses" was given by Dr. Parsons. Living, dried, and microscopical specimens were shown by the lecturer and members of both sections.

The Saturday afternoon excursions were held as under:—
April 30th to Kew Gardens.
July 16th to Keston and Holwood.
September 17th to Ballard Lane and Addington Hills. Fungus Foray.

The first Saturday excursion was to Kew on April 30th, and was under the direction of Mr. Henry T. Mennell. The day was fine, and the attendance very good. There is nothing very fresh to report with regard to this well-known but always freshly interesting resort. The Alpine Garden naturally claimed our first and special attention. This and the herbaceous ground near to it appeal to the horticulturist and all interested in their own gardens as much as to the botanist. The house containing the choicer alpines, not planted out, was gay with many beautiful species of primulas, gentians, &c. The house devoted to the carnivorous plants, our native representatives of which are the sundews, or *Droseræ*, also claimed special attention, and the rest of the time was spent in the pleasure grounds and wilder parts of the Gardens.

The second Saturday excursion was to Keston and Holwood Park on July 16th. *Salvia verticillata*, an introduced species resembling in foliage the native *S. verbenaca*, was found on a roadside bank by Hayes Common. In Colyer's Wood, between Hayes and Keston—actually in Bromley parish—where the caper-spurge, *Euphorbia Lathyris*, had occurred in some plenty in previous years, only dead stems of last year were found, but young seedlings of this curious plant were seen in the adjoining potato field, where also later in the year the thornapple (*Datura Stramonium*), another plant formerly cultivated, was found. In the wood on the other side of the road—Padmall's Wood, in Keston parish—the lily of the valley was found, and it was also abundant in Holwood Park. The lesser skullcap, *Scutellaria minor*, also grew in Padmall's Wood. In the ponds in Holwood Park and on their borders a number of aquatic and moisture-loving plants and several species of ferns grew in luxuriance—*e. g.* the white and yellow water-lilies, the bog-bean, *Typha angustifolia*, *Osmunda regalis*, &c.; these have no doubt been planted where they now are, but some of them may be the descendants of plants formerly native in the neighbourhood, the *Osmunda* being mentioned in old records at Keston Heath and Hayes Common. Several notable trees were seen to which names have been given; thus a large beech tree with twelve trunks springing from one base is called the "Twelve Apostles," and two ancient oaks bear the names of "Pitt's Oak" and "Wilberforce's Oak." Another well-known object is a yew and an oak tree, the trunks of which have completely coalesced.

The third Saturday excursion, usually known as the fungus foray, took place on Sept. 17th. The route taken was by Ballard's Lane to Shirley Hills, and fifty species were collected and identified, a larger number than on any previous occasion. Among the more noteworthy species were:—*Agaricus* (*Tricholoma*) *humilis*, *A.* (*Collybia*) *confluens*, *A.* (*C.*) *dryophilus*, *A.* (*C.*) *protractus*, *A.* (*Mycena*) *filopes*, *A.* (*M.*) *tenerrimus*, *A.* (*Galera*) *embolus*, *A.* (*Psathyrella*) *atomatus*, *Paxillus atrotomentosus*, *Gomphidius viscidus*, *Boletus aurantiformis* (so named at Kew), *Polyporus chioneus*, *Arcyria punicea*.

The Thursday evening excursions were as under:—

On May 19th, under the leadership of Dr. Parsons, a visit was paid to the Rock Garden of Coombe Wood, Coombe Road, by the kind invitation of Mr. Arthur Lloyd, who conducted the party over it. The extremely skilful imitation of natural rockwork, and the great success with which it is laid out to suit the needs of so many rare and beautiful alpine and other plants, were much admired. The free flowering of some of these plants, generally very shy in cultivation, is very noticeable. The beautiful *Gentiana verna* is an example of this, growing in large patches covered with its brilliant blue flowers.

The second Thursday evening excursion was on June 16th to Farthing Down, conducted by Mr. Jas. Ed. Clark, B.A., B.Sc. Starting about 6.15 from Coulsdon Station, a party of twenty-eight first followed the hedge which forms the north-eastern boundary of the common land. It was noted that most of the fine yews had been appropriated to the private side of the barbed wire fence, erected this last winter along the hedge above the first field. Beyond this the path running along the lower side of the hedge was followed, the hedge

agreeably tempering the strong wind, which elsewhere was rather too obtrusive on what in other respects was an almost perfect sunny summer evening. Our botanical finds included some very fine patches of the compact deep-blue milk-wort (*Polygala calcarea*), census number 18. Ripe wild strawberries were also abundant. During the ramble at the further end no fewer than seven orchids were found: tway-blade, spotted, pyramid (in bud), fragrant, butterfly, and fly. The dropwort (*Spiræa filipendula*) was barely in bloom, but promised this year also to be unusually fine. The party returned over the top of the Down to Coulsdon Station, having spent a very enjoyable two hours in the ramble.

The following is a list of the plants observed and noted down by Dr. Parsons:—*Reseda lutea*, *Polygala vulgaris* (blue, pink, and white), *P. calcarea*, *Lychnis dioica*, *Linum catharticum*, *Ilex aquifolium*, *Euonymus europæus*, *Rhamnus catharticus*, *Anthyllis vulneraria*, *Hippocrepis comosa*, *Onobrychis viciæfolia*, *Spiræa filipendula*, *Pyrus Aria*, *Viburnum Lantana*, *Asperula odorata*, *Cnicus acaulis*, *Cichorium Intybus*, *Crepis taraxacifolia*, *Centaurea scabiosa*, *Primula acaulis* and *veris*, *Melampyrum pratense*, *Lamium maculatum*, *Plantago media*, *Euphorbia amygdaloides*, *Taxus baccata*, *Listera ovata*, *Orchis pyramidalis*, *O. maculata*, *Ophrys apifera*, *O. muscifera*, *Habenaria conopsea*, *H. chloroleuca*, *Carex Goodenovii*, *Briza media*, *Agaricus gambosus* (in large rings), *Æcidium crassum* (on buckthorn).

The third Thursday evening excursion was on July 21st, when a small party, under the guidance of Dr. Parsons, visited the gravel-pits in the valley near Hayes Station, in which a number of interesting plants are to be found. Some of these are such as are found native on dry gravelly and sandy soils, as *Hypericum humifusum*, *Malva moschata*, *Lepidium campestre*, *Jasione montana*, *Senecio sylvaticus*, *Scleranthus annuus*, and *Filago minima*; with a few damp-loving species, as *Ranunculus Flammula* and *Gnaphalum uliginosum*. Most of the finds, however, consisted of introduced species, garden escapes, and plants of cultivated ground; among these was the fuller's teasel (*Dipsacus Fullonum*), distinguished from the wild teasel by its glaucous lobed leaves and white flowers seated among strong hooked scales. On account of these hooked scales the heads are used by clothiers for raising the "nap" of the cloth. Other species were *Melilotus officinalis*, *Saponaria Vaccaria* (more plentiful than in 1903), *Erysimum cheiranthoides*, *Alyssum incanum*, *Lepidium ruderale*, *Lychnis Githago*, *Potentilla norvegica*, *Œnothera biennis*, *Erigeron canadensis*, *Senecio viscosus*, and some obvious garden escapes, as *Helianthus tuberosus* (Jerusalem artichoke), and *Nicotiana affinis*. Some of these were mentioned from the same locality in our report last year.

Some botanical notes were also made at the general excursions of the Society.

At the excursion to Leith Hill on Whit Monday, May 22nd, the ferns *Lastrea Filix-mas* and *L. dilatata*, *Athyrium filix-fœmina* and *Lomaria spicant* were fairly plentiful in the old camp, Anstiebury; *Ranunculus Lenormandi*, a form of water crowfoot commoner in the north than in the south of England, was found at Coldharbour; in the boggy ground above Friday Street grew the bog violet and the orange

club-shaped fungus, *Mitrula paludosa*, parasitic on *Sphagnum* moss; and by the stream below Friday Street grew the golden saxifrage (*Chrysosplenium oppositifolium*), the peppermint (*Mentha piperita*), the monkey flower (*Mimulus luteus*)—these two no doubt escaped from gardens above; also *Œnanthe crocata*, and the moss *Rhyncostegium ruscifolium*.

In addition to the plants already mentioned, the following less common species have been observed in the neighbourhood during the past year:—

Helleborus viridis.—Pebblecombe Hill, Betchworth.
Galium anglicum.—Upwood, near Caterham.
Eupatorium cannabinum.—Green Wrythe Lane, Carshalton.
Ruscus aculeatus.—Hedge at West Wickham.
Carex strigosa.—Gatton Park. C. E. S.
Barbarea intermedia.—Roadside near Buckland. C. E. S.
Salvia pratensis.—Another plant on Reigate Hill, looking native! R. M. Prideaux.
Cynoglossum montanum.—Ashstead! R. M. P.
Verbascum lychnitis.—Roadside near Cane Hill Asylum. C. E. S.
V. blattaria.—Roadside near Kingswood! J. B. Crosfield.
Carex tomentosa, L.—Near Chertsey! E. F. Shepherd.
(! = specimen seen by C. E. Salmon.)

The following fungi have been observed during the year:—

Agaricus (*Clitocybe*) *tabescens*.—Peteridge Wood, Reigate. (Verified at Kew. This species is not marked as British in Massee's 'European Agaricini.')
A. (*Omphalia*) *fibula*.—Mitcham Common.
A. (*Omphalia*) *umbelliferus*.—Leith Hill.
A. (*Omphalia*) *pyxidatus*.—Shirley Hills.
A. (*Phaliata*) *spectabilis*.—Keston Common and Botley Hill.
A. (*Flammula*) *sapineus*.—St. Paul's Cray Common.
A. (*Hypholoma*) *appendiculatus*.—Peteridge Wood, Reigate.
A. (*Hypholoma*) *lacrymabundus*.—Sanderstead.
A. (*Hypholoma*) *velutinus*.—Addington.
A. (*Panæolus*) *egregius*.—Croydon, on dung-heap. (Named at Kew. New county record.)
A. (*Psathyrella*) *disseminatus*.—Croydon, on damp plaster.
Coprinus niveus.—Carshalton, on horse-dung.
Cortinarius collinitus.—Addington Woods.
C. elatior.—Colyer's Wood, near Hayes.
C. tabularis.—Keston Common.
Paxillus panuoides.—Keston Common.
P. leptopus.—Keston Common.
Boletus piperatus.—Shirley Hills.
Thelephora terrestris.—Shirley Hills.
Peziza vesiculosa.—Mitcham Common.
P. aurantia.—Chelsham. (This species, which formerly occurred every autumn at Shirley and Coombe Lane, has not been seen there for some years past.)

The meteorology of the year 1904 in relation to vegetation has presented less notable features than some of its predecessors. The year has been a dry one, more than three inches below the average of

the preceding ten years; January, February, May, and December being the only months in which the rainfall has been above the average. There was not, however, any drought severe enough to damage vegetation, though there was a very destructive fire on Hayes Common during the dry weather. The temperature of the year was about half a degree above the average.

January and February were wet and mild, but March was cold and dry. The dates of opening of the early spring flowers mentioned in the list of last year, except the very earliest, were some three or four weeks later than in the exceptionally forward spring of 1903. There was a good bloom on apple and other fruit trees, and an absence of destructive frosts in April and May, so that the fruit crop was exceptionally abundant. The hay crop was also abundant and well made. The corn crop was fair, but that of hops failed in many places.

May was wet, but June, July, and August were dry; July being a hot month. The autumn was dry and cold, with frequent fogs. The first frost to damage tender vegetation was on Oct. 15th; this affected especially the lower grounds, plants on higher levels being untouched. Fungi were fairly plentiful in September, but rather scarce later in the season. The number of plants remaining in flower was small; and had the annual soirée been held at the usual time in November, but a poor show only could have been made as compared with that in 1903.

Mr. J. E. Clark reports the following garden flowers in bloom on Christmas day (at Lile Garth, Ashburton Road):—Three roses, chrysanthemum, viola (yellow), Christmas rose, yellow jasmine, polyanthus, primrose, white knapweed. Ten species compared with nine last year.

Mr. Mennell reports that he never remembers such a dearth of flowers at Christmas in his garden on Park Hill. A few pansies, laurustinus very sparingly, were the only flowers actually out on Christmas day. The Christmas rose (*Helleborus niger*) followed a few days later, and the female flowers of the hazel on New Year's Day.

Mr. J. E. Clark reports that during December he noted the following wild plants in bloom:—*Ranunculus repens* (buttercup), *Veronica agrestis*, *Stellaria media* (chickweed), *Ulex europæus* (gorse), *Potentilla* sp. (cinquefoil), *Scabiosa* sp., *Matricaria inodora*, *Senecio vulgaris* (groundsel), *Bellis perennis* (daisy), *Taraxacum officinale* (dandelion), *Primula acaulis* (primrose), *Poa annua*.

The following circular, received from the South-Eastern Union of Scientific Societies, was referred to the Botanical Section:—

"Wild Plant Protection.

"The Council is desirous of eliciting information as to the danger of the extermination of wild flowering plants and ferns, and as to any means other than educational of checking the same. Will you therefore kindly bring the matter before your Society at an early date, and inform the Council whether in the opinion of your Society—

(1) Any particular species or groups which are in your district are in present danger of extermination.
(2) If so, from what cause.
(3) Whether your Society is of opinion that any legislative or other action should be taken to check such extermination."

In reply, the Section are of opinion that :—

(1) The species most in danger of extermination are—

a. The primrose.

b The *Orchidaceæ.*

c. The ferns, except *Pteris aquilina.*

(2) *a.* The primrose is in danger chiefly from hawkers, who dig the plants up for sale. It has disappeared, or almost so, from accessible woods and places in the immediate neighbourhood of Croydon, though it still exists in woods from which the public are excluded.

b. The *Orchidaceæ* are endangered by the digging up of their roots by hawkers for sale, and by other persons, in the generally vain hope of getting them to grow in their gardens; and also occasionally by the destruction of their habitats. Thus *Aceras anthropophora* appears to have been eradicated at Box Hill; of the two stations in this neighbourhood for *Herminium Monorchis*, one at White Hill has been destroyed by building, and the other at Warlingham by extension of a chalk-pit. At Keston, the station for *Spiranthes autumnalis* is in danger from the making of a new street. (Other plants incur similar dangers of accidental extinction in a neighbourhood where building is so rapidly progressing as around Croydon; thus *Phyteuma orbiculare*, which grew in the same place with *Herminium Monorchis* at Warlingham, has disappeared with it; and *Sambucus Ebulus* is in danger of extinction through building operations at South Norwood. The breaking up of pasture into arable land, and the draining of wet places, are operations which cause the loss of wild plants in many districts, but are less operative in this neighbourhood.)

c. The ferns, other than the brake, are in this neighbourhood such a vanishing quantity as to be no longer an object to the hawker, though any chance specimens that may appear are speedily rooted out by the private collector to plant on his rockery. The following species appear to have been lost to the neighbourhood of Croydon during the past fifteen years :—

Lomaria Spicant.—A few small plants formerly in the side of a ditch at Shirley Hills, now gone.

Asplenium Trichomanes.—Formerly grew on a hedge-bank—a somewhat unusual situation—at Crofton Lane, Orpington; not seen for several years.

A. Ruta-muraria.—Formerly grew in some plenty on a wall at Addiscombe Road, Croydon; perished during a dry summer, owing to ivy having grown over the top of the wall, thus depriving it of its supply of moisture.

Scolopendrium vulgare.—In an old well at West Wickham; the lid of the well is now fastened down, and the plants will probably perish.

Lastrea dilatata.—Gone from the station at Addington mentioned last year.

Polypodium vulgare.—Formerly at Croham Hurst; not found recently.

(3) It is difficult to suggest any measures, beyond the preservation of commons and open spaces, for the protection of the disappearing members of our native flora, however much we may regret their loss. Building and other industrial operations cannot be stopped for their sake, and a strict watch against trespass is not to be expected where

only wild flowers and not game have to be protected, nor is it desirable that the nature-loving members of the public at large should be debarred from places to which they now have access on sufferance so long as they do not abuse their opportunities. It is unlikely that any measure like that for the protection of wild birds would be passed by Parliament.—E. F. Klaassen.

Microscopical Committee.

This Section has only held three meetings during 1903, as it was considered wiser not to have too many, in order that those held should have a chance of being well-attended. Two of these sectional meetings have again been joint, as it was felt that the Microscopical Section best fulfilled its mission by acting chiefly as a helper to the other Sections.

On Wednesday, February 18th, a meeting of the Section was held, when Mr. Murton Holmes gave a short explanation of polarised light. Numerous specimens of crystals and other slides suitable for the polariscope were shown.

On Thursday, March 24th, a joint meeting of the Botanical and Microscopical Sections took place, when Dr. Franklin Parsons gave a most interesting address on "Mosses," illustrated by a very large number of living specimens, and also by microscopic slides.

On Tuesday, November 18th, there was a joint meeting of the Geological and Microscopical Sections, when a number of microscopes, with polariscopes, were on view, and a great many beautiful specimens, both mineralogical and palæontological, were shown under polarised light.

Geological Committee.

The Committee beg to report that the meetings of the Section have been well attended, an average of ten members and visitors having been present at the nine meetings which have been held, whilst at the committee meetings, nine in number, an average of six members have been present.

Seven excursions have been held, as follows :—

January 13th.—To Woldingham, under the guidance of Mr. W. Whitaker, F.R.S., for the purpose of inspecting the flow of the Bourne.

The party numbered about fifteen. The Bourne was found to commence in the field below Bughill Farm, and to be flowing over the road under the viaduct.

At Wapses Lodge the water had risen to a considerable height above the culvert.

At Kenley gasometer the water was nearly over the footpath, and a strong stream was flowing through the garden of the "Rose and Crown" Inn.

Several photographs of the water and stream were taken. The party walked down to the trams at Purley.

April 16th.—To Chipstead, under the guidance of Mr. W. Whitaker, F.R.S.

The party, numbering twenty-four, met at Chipstead Station and walked round Banstead Wood.

At the summit of the hill the conductor gave a short description of

the local geology, and Mr. Robarts called attention to the probable British trackway from Chipstead to Woodcote.

The gravels at the top of the hill were examined, and found to consist of large, almost unrolled flints, pebbles (tertiary ?), ironstone, and chert, in a clayey matrix. There was no sign of current bedding.

The party then divided, some going to visit a supposed denehole, under the guidance of Mr. H. C. Collyer, whilst the remainder of the party completed the original route, walking down the valley to Stoat's Nest Station, examining the gravels in the valley, which were found to consist of flints more rolled than those of Banstead Wood, with a smaller percentage of chert, pebbles (tertiary ?) and ironstone.

April 18th.—To New Cross Gate, to see a section in the London County Council's Tramway Yard, under the guidance of Mr. N. F. Robarts, F.G.S.

Six members were present, who examined the section, which commenced in sands below the Paludina bed of the Woolwich and Reading Beds, or else that bed had thinned out between the station and the L. B. & S. C. R. cutting about six hundred yards to the south-east, and south of New Cross Station. The beds were exposed down to the pebble-bed (Woolwich and Reading series), but the bottom of that bed was not shown, although it had been passed through to the Thanet Sand in a trial boring.

June 20th.—To Mr. George Young's Gravel Pit in Sydenham Road, Croydon.

Mr. W. Whitaker, F.R.S., conducted the party, consisting of ten members. Mr. W. Bruce Bannerman, F.G.S., to whom the pit belonged, was also present, and gave information.

The section showed 1 ft. 6 in. to 2 ft. soil, above about 15 ft. of gravel and 1 ft. 6 in. of sand resting on London Clay, from which last were taken some iron pyrites and pyritised wood. In the gravel a quartzite pebble was found by Dr. Hinde. The gravel was formed almost entirely of subangular flints and a few "Blackheath" pebbles, but no sandstone, ironstone, or other tertiary remains, except the quartzite, were noticed.

June 24th.—To Messrs. Hall and Co.'s gravel pits at Beddington Lane, under the guidance of Mr. W. Whitaker, F.R.S.

Seven members were present, who examined the gravels.

July 27th.—To the grounds of Earlswood Asylum, under the guidance of Dr. H. Franklin Parsons, F.G.S., for the purpose of seeing the limestone of the Wealden Beds containing fossils. The stone was not seen *in situ*, but lay about in heaps. It was found to contain *Paludina* and *Unio*.

Four members and a friend were present.

November 5th.—To Honor Oak Hill, under the leadership of Mr. W. Whitaker, F.R.S. Seven members and friends were present.

The party walked over the hill and noted the landslip in London Clay, almost upon the watershed forming the boundary between Surrey and Kent. The slip showed a vertical face of about twelve feet, and extended for about three hundred yards. A small remnant of the gravel once covering the district was noticed on the top of the hill.

Owing to the paucity of new sections opened during the year, there has been less to report than usual, but whilst new drains were being made in Plough Lane the Marsupites zone in the Chalk was discovered, which had not previously been noted in this district.

A few geological photographs have been added to the Society's geological album.

Some photographs have been sent to the Committee of the British Association for recording geological sections.

The thanks of the Committee are tendered to the following gentlemen, for permission to visit various sections at the excursions:—Mr. E. Riley, Consulting Architect, London County Council; Mr. George Young; Mr. W. B. Bannerman, F.G.S.; and Mr. H. Hall.

Museum Committee, 1904.

On behalf of the Museum Committee I beg to report, that in accordance with the Resolution of the Council, dated January 14th, 1904, "That the Museum Committee be empowered to lend specimens from the Carpenter Collection for educational purposes, for a term not exceeding twelve months," the Committee have offered loans of specimens to the Croydon Education Committee, to the School of the Convent of the Ladies of Mary, and to North Park College, which offers have been gratefully accepted.

A few specimens have been lent to North Park College, but arrangements have not yet been completed for handing specimens to the Education Committee, or the Convent School, owing to the large amount of cleansing which will be necessary, before they are delivered. It is hoped that arrangements for this will shortly be completed.

The Loan Museum still appears to answer the intention of the Society by attracting the attention of visitors to the Free Library.

The number of specimens received during the year has been eighty-two, exclusive of about one hundred Roman coins found in Croydon, lent by the Croydon County Council, the total thus being in excess of the previous year.

Loans of Archæological and Zoological objects suitable for exhibition are still much wanted.

The thanks of the Committee are tendered to the following members of the Society, who have made loans during the year:—Messrs. J. H. Baldock, F. Churchill, H. D. Gower, Miss Gwatkin, Messrs. W. G. Hinde, W. M. Holmes, E. A. Martin, F.G.S.; H. Franklin Parsons, M.D., F.G.S.; N. F. Robarts, F.G.S.; also to the Croydon County Council, Messrs. D. A. McAdam, A. J. Potter, and C. Morgan Smith, who are not members.—N. F. Robarts, *Hon. Sec.*

Members Elected, 1904.

January 19*th.*—Madame F. du Pont, Madame Ediltrude (M. E. Everitt), Miss Ivy L. Clayforth (Junior), Miss E. Baird Johnstone, Stanley E. Hall, George O. Silverlock.

March 15*th.*—Peter Anderson, F. E. J. Stone, Miss Dorothy F. Silverlock.

April 19*th.*—J. Lewis Vincent.

May 17*th.*—T. F. Clarke, T. C. L. Wootton (Junior).

September 20*th.*—Alfred Clark, B. A., William Willox, M. A., M.I.C.E.

December 15*th.*—J. E. Bredall, John Morgan, Miss E. A. Bredall, Miss Annie J. Hinde (Junior).

Donations to the Library, 1904.

From Individuals.—List of British non-Marine Mollusca, Mr. Gower. Nature Notes, Mr. Whitaker. Notes on Westerness Plants and Notes on *Epilobium collinum*, Mr. Salmon. Photographic Lenses, Mr. Baldock. Account of some of the Meteorological Work of the late Jas. Glaisher, F.R.S., Mr. Campbell-Bayard.

From Societies.—The Photographic Journal; Journal of the Royal Microscopical Society; Journal of the Quekett Microscopical Club; Proceedings of the Scottish Microscopical Society; Journal of the Northants Natural History Society and Field Club; The Rochester Naturalist; Proceedings of the Academy of Natural Sciences, Philadelphia; Report of the Fernley Observatory, Southport; Report of the Hastings and St. Leonards Natural History Society; Transactions of the West Kent Natural History, Microscopical, and Photographic Society; Report of the Missouri Botanical Garden; Report of the British Association Meeting, Southport; Transactions of the Manchester Microscopical Society; Transactions of the Norfolk and Norwich Naturalists' Society; History of the Berwickshire Naturalists' Club; Report of the Commons and Footpaths Preservation Society; Report of the Kent and Surrey Commons and Footpaths Preservation Society; Report of the Peterborough Natural History, Scientific, and Archæological Society; Journal of the Manchester Geographical Society; Report of the Yorkshire Philosophical Society.

From Publishers.—The British Journal of Photography; The Amateur Photographer; The Bromide Monthly; The Magic Lantern Journal.

Croydon Natural History and Scientific Society.—Receipts and Expenditure for the Year ending 31st December, 1904.

1904.	Receipts.	£	s.	d.	£	s.	d.
December 31.							
To Subscriptions	(1903) received 1904	3	10	0			
,,	(1904) ,, 1903	6	2	6			
,,	(1904) ,, 1904	87	17	6			
					97	10	0
Donations and Sales on account of Meteorological Section—							
F. Campbell-Bayard, Esq. ...		5	5	0			
Baldwin Latham, Esq. ...		5	5	0			
J. Edmund Clarke, Esq. ...		0	10	0			
Honble. N. Napier		0	2	6			
C. Beadle, Esq.		0	5	0			
G. Phare, Esq.		0	2	6			
Lt.-Col. Kidd		0	10	0			
Dr. G. Bower		0	10	0			
Dr. J. H. Crocker		0	5	0			
W. W. Wagstaffe, Esq. ...		0	2	6			
Underground Water Preservation Association		0	10	0			
Croydon Corporation... ...		0	10	0			
Croydon Rural District Council		0	10	0			
Sutton Waterworks		0	10	0			
Metropolitan Water Board ...		0	10	0			
					15	7	6
Sale of Transactions and Papers					0	7	0
Rent of Lockers in Dark Room					0	7	6
One year's Dividend on Life Membership Investment ...					0	5	4
Balance due Treasurer					12	1	8
					£125	19	0

1904.	Payments.	£	s.	d.	£	s.	d.
January 1.							
By Balance due Treasurer					2	13	5
Rent of Club Room					10	0	0
Hire of Rooms for Meetings					4	10	0
Cost of Transactions					36	8	6
Fire Insurance paid County Fire Office					1	13	9
Printing Rainfall Returns, Dec. 1903, to Nov. 1904					27	19	0
Photographic Section—							
Rent of Dark Room		10	0	0			
Gas for Lectures, Postages, &c. ...		2	10	5			
Affiliation Fee to Royal Photographic Society		1	1	0			
					13	11	5
Botanical Section, Postages, &c. ...					0	2	3
Geological ,, ,, ...					1	15	5
Printing Monthly Circular and Postages on same					10	13	8
Postages on Transactions					2	19	3
Sec. & Treas. Stationery & Post. Account					5	13	4
Lecture Account—							
Paid A. Lewis, Esq.		3	3	0			
,, Hire of Rooms, and Sundry Expenses		6	0	10			
		9	3	10			
Less Sale of Tickets, &c. £1 14 10							
Received per F. C.-Bayard, Esq., for balance ... 7 9 0—		9	3	10			
Re-fixing & Re-painting Notice Board at Institution					0	8	0
Subs. to—S.E. Union of Scientific Socs.		0	10	0			
,, Com. & Footpaths Preser. Soc.		0	5	0			
,, Photographic Survey of Surrey		0	5	0			
,, Soc. for the Protection of Birds		0	5	0—	1	5	0
Assistant Secretary					5	0	0
Gratuities					1	6	0
					£125	19	0

SPECIAL FUND ACCOUNT.

£186 9s. 0d. CONSOLS.

1904.	£	s.	d.	1904.	£	s.	d.
January 1.				December 31.			
To Balance	30	11	7	By Paid County Fire Office on Museum Case ...	0	2	6
Dividend, January	1	3	3	,, Alterations to Case	0	13	6
,, April	1	3	3	,, Curator's Expenses	0	3	0
,, July	1	3	3	,, Repairs to Sink in Dark Room	0	3	0
,, October	1	3	3	Balance	34	2	7
	£35	4	7		£35	4	7

BALANCE SHEET.

January 1, 1905.	£	s.	d.	January 1, 1905.	£	s.	d.
To Balance, Special Account	34	2	7	By Balance due Treasurer	12	1	8
Subscriptions for 1905, paid in advance ...	6	0	0	Printing Mr. Latham's paper, "The Bourne Flow," which is chargeable to 1905	6	6	0
				Cash at Bank 20 13 8			
				,, with Treasurer 1 1 3			
					21	14	11
	£40	2	7		£40	2	7

We, the undersigned, having examined the books of the above Society, also accounts and vouchers relating thereto, certify the above are properly drawn up so as to exhibit the true and correct view of the Society's affairs.

F. J. TOWNEND, *Hon. Treasurer.*
6th January, 1905.

W. L. MOORE,
A. MALDEN, } *Hon. Auditors.*

BRONZE PALSTAVE, WARLINGHAM, 1904.

To face p. 59.

TRANSACTIONS

OF

THE CROYDON NATURAL HISTORY AND SCIENTIFIC SOCIETY.

1904—1905.

11.—Note on Bronze Palstave found at Warlingham.

By C. H. Goodman.

(Read April 19th, 1904.)

In December, 1900, a paper was read before this Society by Mr. Robarts, in which he described some bronze implements found at Beddlestead, in the parish of Chelsham. We have now to put on record another find from the same parish, about a mile eastward of the former position. The Oldhaven Beds on Worms Heath are dug for gravel for local use, and while a man named Levings was engaged in this work he found a bronze palstave under a bed of peat some four inches in thickness. It is $5\frac{3}{4}$ in. long, and weighs 12 oz. The cutting edge is $2\frac{1}{2}$ in. in diameter, with a well-marked central rib, the blade being somewhat strongly pitted. This implement represents an earlier period in the evolution of the axe than those found at Beddlestead, as the latter were socketed and furnished with the well-known loop. It is being preserved by Mr. Lockton, of Warlingham.

12.—Notes on the New Cross Cutting (L.B. & S.C.R.).

By N. F. Robarts, F.G.S.

(Read April 19th, 1904.)

The work of widening this cutting, which has been going on for upwards of a year, has given opportunity for the re-examination of the section which was exposed about sixty years since, when the term Plastic Clay embraced the beds since more specifically divided into the Blackheath or Oldhaven and the Woolwich and Reading Beds. A few notes therefore on the section recently exposed, with a slightly increased list of fossils, may be of interest.

By the courtesy of Mr. Charles L. Morgan, Chief Engineer of the L.B. & S.C.R., I was able, during the summer of last year, to pay frequent visits to the cutting both before and after the members of our Society visited it on 18th April, 1903.

The unfortunately wet season, however, made any examination of the section almost impossible, at times for weeks together, London Clay and Plastic Clay having most undesirable qualities in continuous wet weather. Not only was the face of the section frequently obscured by slips, but the extraction of fossils was impossible unless the clay was moderately dry. Those of our members who have travelled upon the line must have noticed the frequent slips, which hindered the work, at times burying waggons and rails; whilst to all appearance the slips are likely to continue for a long time to come, a great part of the cutting which has been graded having already given way.

These slips are, however, small compared to that recorded by Mr. C. H. Gregory, which took place in 1841.* The line had then been open about four years, when on Nov. 2nd, in the course of about four hours, about 50,000 cubic yards of clay slipped from the western side of the cutting (the inner side of the curve of the road), and "overwhelmed the line of railway for a length of 120 yards, and a depth of 10 or 12 feet." By Nov. 18th both lines were cleared, but on Nov. 22nd both lines were again covered, and traffic was suspended until Dec. 23rd, clay having come forward on both sides of the cutting. On Jan. 7th, 1842, the west side again gave way, and, in spite of relays of men working unceasingly by day and night, it was not until after Feb. 10th that the trains ran through regularly.

* "On Railway Cuttings and Embankments, with an Account of some Slips in the London Clay, on the Line of the London and Croydon Railway," by C. H. Gregory. March 26th, 1844. Inst. of Civil Engineers, vol. iii. p. 135.

What the general manager of the Company would have to put up with if these slips were repeated in 1904, I am unable to conceive, though possibly the engineer would be equal to removing the obstacle more expeditiously than his predecessor.

I might point out that these great landslips followed a year of excessive rain. Our President informs me that 1841 was a very wet year, the rainfall at Greenwich being 33·26 in., and was only exceeded in 1852 and 1903.

The mass of clay was greater in 1841 than in 1903, the cutting then being far deeper and narrower than it has been since the great slip; but the effect of the heavy rains last year show the disposition of the clay to slide after very heavy rains. It was very noticeable last summer how the clay crept forward over the lower bed E, which never seemed to shift.

According to Mr. Gregory, the first slip "was materially assisted by the natural dip of the strata from west to east, and by the fact of the western slope being on the inside of the curve, thus leaving the slope less supported laterally." The following is the section given by Mr. Gregory, the depth of the original cutting at the centre line being about 75 ft., rising to 80 ft. on the western side:—

	FT.	IN.
Yellow clay.		
Blue clay ..... 10 ft. to	15	0
Rolled flint shingle	1	10
Fine sand	0	3
Lignite	0	0¼
Fine sand.....	2	0
Ferruginous sand with fossils	0	4
Loose grey sand with fossils	0	8
Strong blue clay.....	0	10
Black clay and sand with fossils.....	0	9
Black dirty sand.....	0	4
Dark sand with fossils, oysters, &c.	0	6
Stone with fossils	0	6
Decomposed stone and sand with fossils	0	3
Plastic clay.		

The next published record of this cutting is that by Mr. Henry Warburton,* who received from Mr. Simms the following section:—

London Clay, the lowest bed of which, from 10 to 15 ft. thick, is of a blue colour.	FT.	IN.
Rolled flint pebbles	1	10
Fine fawn-coloured sand	0	3
Lignite	0	0¼

* "On the Occurrence of a Bed of Septaria, containing Fresh-water Shells, in the Series of Plastic Clay at New Cross, Kent" (Quart. Journ. Geol. Soc. 1845, p. 172).

	FT.	IN.
Fine fawn-coloured sand	2	0
Ferruginous sand with fragments of oyster-shells and Cerithia	0	4
Grey sand with fragments of Cerithia	0	8
Strong black clay	0	10
Black clay and sand with fragments of oysters and Cerithia	0	9
Black sand	0	4
Dark sand with oyster-shells	0	6
	7	$6\frac{1}{4}$
Calcareous stone, with fresh-water shells	0	6
Sand and stone in a rotten state with oysters	0	3
	8	$3\frac{1}{4}$

The shells recorded in addition to the above were *Paludina* and *Unio*.

It will be seen that Mr. Simms copied Mr. Gregory's section, merely verbally altering the description of some of the beds, and giving a few fossils.

Prestwich gives the section as follows* :—

	FEET.
London clay	40
Basement-bed London clay (flint pebbles in ochreous sand)	1 to 2
Yellow sand	$2\frac{1}{2}$
Clay and sand with shells occasionally	3
Band of fresh-water limestone (*Paludina*)	$0\frac{1}{2}$ to 1
Sand and shells	6
Clayey sand and shells	5

No further record of the section appears to have been published until Mr. Whitaker, in his memoir,† gave the sections published by Messrs. Gregory and Warburton, with some remarks of his own, as follows :—

		FT.	IN.
London Clay	Yellow clay.		
	Blue clay [with many and large pieces of selenite. The lower part laminated]	10 to 15	0
	Flint pebbles [basement bed]	1	10

* "On the Structure of the Strata between the London Clay and the Chalk," &c. (Quart. Journ. Geol. Soc. vol. x. p. 103).

† 'Memoirs of the Geological Survey of Great Britain,' vol. iv. part i. pp. 129–130.

		FT.	IN.
Woolwich Beds	Fine fawn-coloured sand	0	3
	Lignite	0	0¼
	Fine fawn-coloured sand	2	0
	Ferruginous sand with fossils (*Ostrea, Cerithium*)	0	4
	Loose grey sand with fossils (*Cerithium*)	0	8
	Strong blue or black clay	0	10
	Black clay and sand with fossils (*Ostrea, Cerithium*)	0	9
	Black dirty sand	0	4
	Dark sand with fossils (oyster-shells, &c.)	0	6
	[Clayey] calcareous stone with fossils [*Paludina*-bed]	0	6
	Decomposed stone and sand with oyster-shells	0	3
	Plastic clay.		

I took a series of sections on different dates from March 26th to July 10th, the section often varying somewhat during the progress of the work, and according to the position north or south in the section.

The following may be regarded as a fairly representative section :—

A. London Clay	Yellow clay.	
B. Oldhaven Beds	Pebbles in yellow sand, —pebbles very large at base	1 to 2 ft.
C. Woolwich and Reading Beds	Loam and sand	18 in. to 2 ft.
,,	Shelly bed (*Cyrena*)	3 to 4 in.
D.	Clayey limestone (*Paludina*)	9 in.
E.	Glauconitic sandy clay	3 ft. 6 in. to 4 ft.
	Ostrea bed	7 to 9 in.
F.	Green clayey sand, pyritized wood	9 in.

By the kindness of Mr. E. T. Newton, F.R.S., I am enabled to give the following list of fossils which he has determined from specimens collected by himself and others, together with those in my collection, the horizon of same being indicated by the lettering of the section :—

B. *Cliona.*
Ostrea.
Cyrena.
Melania inquinata, Defr.
Odontaspes elegans (found on the surface, not *in situ*).
Pyritized wood.

C. *Cliona.*
Ostrea bellovacina, Lam.
Cyrena cuneiformis, Lon.
Unio subparallela ?, Edw.

D. *Unio subparallela.*
Scrobicularia Condamini, Morris.
Hydrobia Parkinsoni, ? Morris (*Stenothyra*).
Melanopsis buccinoidea, Fer.
Paludina lenta, Brand (*Vivipara*).
Pitharella Rickmanni.
Fish-bone.

E. *Cliona.*
Cyrena intermedia, Melville.
Modiola.
Ostrea bellovacina, Lam.
Cerithium funatum, Mant.
Hydrobia Parkinsoni, Morris (*Stenothyra*).
Melania inquinata, Defr.
Coprolite ?.

F. *Modiola Mitchelli*, Morris.
Ostrea sp.
Cerithium funatum, Mant.
Melania inquinata, Defr.

13.—Notes on the Polariscope presented by the President.

By J. H. Baldock, F.C.S.

(Read September 20th, 1904.)

With reference to the very beautiful present just made to the Society by its President, Mr. F. C.-Bayard, I have been asked to say a few words of explanation as to what polarized light is, and its application to the instrument before us, after which I shall, with the kind assistance of Mr. Gower, show you some of the extremely beautiful results to be obtained by the means of the lantern polariscope.

Most people who possess microscopes which are capable of producing polarizing effects, know that by doing certain things, with certain parts of the instrument, they are able to produce certain effects, but it is very probable that many do not know what happens to enable them to do this.

Distinction between Common and Polarized Light.—Every beam of *common light* appears to consist of an indefinite number of systems of waves, undulating in a determinate plane, always at right angles to the direction pursued by the ray. These waves vibrate in all azimuths around the course of the ray, but may be theoretically resolved into two component vibrations at right angles to each other. Thus, common light may be regarded as composed of two beams of light which are vibrating in planes at right angles to each other.

Polarized light differs from ordinary light in being produced by vibrations in a single plane only. Polarization once impressed on a beam of light continues permanent, whether the subsequent course of the ray is long or short, provided it continue in a *homogeneous* medium.

What is known as the "Nicol's Prism," composed of Iceland spar, calcite, or carbonate of calcium, as it is variously called, is a convenient means of obtaining a polarized beam of light, depending on the principles of double refraction and total internal reflection. It is constructed thus:—A rhombohedron of Iceland spar is bisected in the plane which passes through the obtuse angles; the two halves are then joined again, in the same position, by means of Canada balsam. The refractive index of Canada balsam, 1·549, is less than the ordinary index of Iceland spar, 1·654, but greater than its extraordinary index, 1·483. The section of the Iceland spar prism is cut in such a direction that the ordinarily refracted ray strikes the Canada balsam at an

angle greater than its critical angle, and undergoes total internal reflection, while the extraordinary ray, striking the balsam at less than its critical angle, can traverse it. Hence, since the Nicol's prism allows only the extraordinary ray to pass, it may be used, like a tourmaline, either as a polarizer, or as an analyzer.

At this point it may be as well just to state what is meant by ordinary and extraordinary rays. All transparent crystals which do not belong to the regular or cubical system are doubly refracting; when a double refracting crystal, such as the one we are considering, *i. e.* Iceland spar, is placed over a dark dot on a piece of white paper, and looked through, not one dot but two are seen; and if the crystal is rotated, keeping the eye in the same line, one of these dots will appear to revolve round the other, the *ordinary image*, corresponding to the *ordinary ray*, being fixed; while the *extraordinary image*, corresponding to the *extraordinary ray*, describes a circle round it.

Unfortunately, there is now such a scarcity of crystals of Iceland spar, especially of any size and purity, that a perfect crystal of, say, 2 in., would cost £200 or £300, even if it could be obtained at all, which is doubtful. Opticians have therefore been obliged to resort to some other means for polarizing light. In the instrument before you, this has been obtained by means of a number of flat, thin, colourless glass plates, the last one at the back being made of black glass, or blackened, and the whole so arranged that the light from the condenser in the lantern falls on the plates at an angle of fifty-six degrees from the normal, this being what is called the polarizing angle. When, therefore, a ray of light encounters such a bundle, part of it is reflected, and this reflected light is in part polarized, With one plate polarization is only partial, but with ten or twelve plates polarization is tolerably complete.

There are two disadvantages to this form of polariscope, *i. e.* that the lantern has to be turned sideways consequent on the elbow; and the other is that the polarizer cannot be rotated; but these are not very serious objections.

We have now got polarized light, and, with the addition of a second polarizing arrangement called an analyser, which in this case, being much smaller, may be a Nicol's prism constructed as already described, our apparatus is complete.

When the polarizer and analyser are so arranged that the plane of polarization of the two coincides, the light which has passed through the polarizer, which is rather less than half the original light, passes through the analyser in the same plane with little further loss. But when the analyser is rotated around the axis of the beam of light, the plane polarized light which falls on it is resolved into two components, one parallel with, and the other

at right angles to, the polarizing plane of the analysing Nicol, the former component passing, and the latter being arrested. As the angle of rotation is increased, the proportion of the latter component increases, and more and more light is arrested, until when the planes of polarization of the polarizer and analyser are at right angles to one another, the light is almost completely stopped, and the field becomes quite dark. Continuing the rotation beyond the right angle, the light gradually reappears. If, now, when the planes are at right angles to one another, we place between the polarizer and the analyser a transparent substance which has the optical property of rotating the plane of polarization, the polarized light which passes through this substance will have its plane of polarization so altered that a portion of it will be able to pass through the second or analysing prism, and will produce on the screen or in the microscope an image of the object, more or less bright, on a dark ground. A similar effect is produced if a doubly refracting substance is placed between the two prisms, the light being resolved into two components, one of which is able to pass.

Frequently, especially when the objects exhibited under the polariscope are thin sections, the images appear brightly coloured, the colours changing to the complementary hue when the analyser is rotated at right angles to its former position. These colours are due to what is called "interference," like the colours of thin films, as of a soap-bubble, though the mechanism producing them is different. In the thin film the light which is reflected from the deeper side of the film has to take a longer path than that reflected from the surface, hence it lags slightly behind, and if it does so to just such an extent that the vibrations in the retarded ray are moving in exactly the opposite direction to the corresponding ray with which it coincides, those particular waves are neutralized. Hence, as white light is made up of an indefinite number of series of waves of different frequencies, each corresponding to a particular colour, if one of these series of waves is cancelled out, the residual light will not be white, but of the colour complementary to that which has been cancelled out. In the case of polarized light a similar effect of colour is produced, owing to the circumstance that the light which emerges from the analyser after having passed through a doubly refracting object is composed of two portions which have travelled at slightly different rates of velocity, hence one portion lags behind another sufficiently to allow the waves of length corresponding to a particular colour to cancel one another, and the light appears of the complementary colour. In either case it is only when the thickness of the reflecting or doubly refracting medium is very small that the paths of the rays coincide with sufficient exactness to produce the inter-

ference effect. The colours of selenite films in the polariscope are thus produced. Selenite is a doubly refracting mineral which readily splits up into thin plates, a definite thickness of plates producing a definite pair of complementary colours.

Some curious and amusing slides were exhibited, in which plates of selenite producing appropriate colours had been arranged to form pictures, with leaves and flowers. In one slide a miller was changed into a sweep by the turning of the analyser.

14.—Some Surrey Wells. (Fourth Paper.)

By W. Whitaker, B.A., F.R.S.

(Read October 18th, 1904.)

The total number of recorded well-sections in Surrey was brought up to 302 in my last paper on the subject, published in the 'Transactions' for 1900. We have now thirty-eight more, two thirds of which are in the western part of the county; but one of these is practically a duplicate of a previously published section, so that the total is 339. Of these only three reach to the depth of 500 feet (at Purley, Battersea, and Dulwich), and only two are of special interest.

At Purley a boring has been carried through the Chalk and the Upper Greensand to the Gault, thus for the first time proving the depth to the Gault in that neighbourhood.

At Tatsfield a supply of water has been got for Limpsfield and Oxted by boring through the lower part of the Gault, the Folkestone Beds, the Sandgate Beds, and some way into the Hythe Beds. We have now a definite measurement of the Folkestone Beds, from top to bottom giving a thickness of 211 feet.

The figures for thicknesses and depths stand for feet, unless otherwise stated. Words referring to the classification of the beds, in square brackets, have been added by the writer.

Battersea. *Latchmere Road Baths. No. 2 Boring.* 1901.

Made and communicated by Messrs. A. C. Potter & Co.

40 feet of tubes, of 13 inches internal diameter, fixed into the London Clay, to shut out surface-water, and 260 feet of tubes of 10 inches internal diameter, 9 feet into the chalk.

		Thickness	Depth
Pit, in Made Ground		—	9
[River] gravel		15	24
[London Clay, ? 132 feet.]	Clay, with 6 inches of claystone at the base	39½	63½
	Loamy clay	30	93½
	Sandy clay	15½	109
	Blue clay, with claystone 129 to 129½ feet down	39	148
	Sandy clay	3	151
	Basement-bed [?]. Conglomerate and shells	5	156

		Thickness	Depth
[Woolwich and Reading Beds, 57 feet.]	Clay and shells	4½	160½
	Mottled clays, brown, green, red, yellow and grey (7 beds)	24	184½
	Grey sandy mottled clay	5½	190
	Grey clay	2	192
	Oyster-shells	3	195
	Grey (1 foot) and brown mottled clays	18	213
[Thanet Sand, 38½ feet.]	Compact sand	6	219
	Running sand	21	240
	Loamy sand	11	251
	Flints	½	251½
[Upper (and ? Middle) Chalk, 265½ feet.]	Hard chalk and flints	98	349½
	Soft chalk and flints, the top 32½ feet, water-bearing	143½	493
	Soft chalk, streaked with grey	9	502
	Hard chalk	15	517

Camberwell. *Honour Oak Pumping Station of the Southwark and Vauxhall Water Co. By Priory Farm, S.E. of Peckham Rye Common.* 1903 ?

Over 107½ feet above Ordnance Datum.

Communicated by Mr. J. W. Restler.

Shaft and cylinders into the Chalk. Galleries driven at a depth of 236 feet, for a length of 3123 feet.

Rest-level of the water 4 feet above Ordnance Datum. Large yield.

		Thickness	Depth
Soil		1	1
[London Clay, 57 feet.]	Yellow clay	4	5
	Coarse yellow clay	19	24
	Blue clay	34	58
[Woolwich and Reading Beds, 42½ feet.]	Fine grey sand	7½	65½
	Clay and shells	11 ?+	76½
	Mottled clay	7 ?−	83½
	Sandy clay and pebbles	6½	90
	Sand and concretions	10½ ?−	100½ ?−
[Thanet Sand, 41 feet.]	Green sand	39	139½
	Flints, dark coated	2 ?+	141½ ?+ (? should be 151½)
Chalk		148½	300

Chiddingfold. *For Mr. S. Barrow.* 1901.

Made and communicated by Messrs. Duke & Ockenden.

		Thickness	Depth
Dug well [? old]		—	92
[Weald Clay.]	Blue clay	21	113
	Sand rock	7	120
	Clay	130	250

Compton. *Heath Nurseries.* 1900.

Made and communicated by Messrs. Duke & Ockenden.
Water-level 48 feet down.

	Thickness	Depth
Dug well [? old] ...	—	50
Sand	6	56
Bargate stone	2	58
Sand and clay	50	108

Cranleigh. *Bog.*

Boring of 3 inches diameter, from 19½ feet downward. (Field 676 of 25 in. Map xxxix–ii. ed. 2, 1896.)

Communicated by Mr. Stephen Rowland, of Yew Tree House. 1901.

	Thickness ft.	in.	Depth
Bog, cleaned out to the depth of	19	6	61 ft. 4 in.
Shaly clay	4	0	
Red clay, with a slight admixture of blue clay here and there	37	10	

When the bottom of the bog was reached a good flow of water was obtained from several fissures in the shale, and, with a view of increasing the supply, the bore-hole was made, but with no result.

Croydon. *Empress Laundry.* 1902.

Made and communicated by Messrs. Duke & Ockenden.
The only indications of water were at 287 to 296 feet down.

		Thickness	Depth
Made ground		4	4
Gravel		4	8
[London Clay.]	Clay	54	62
	Rock	6	68
	Clay	8	76
	Sand	13	89
	Sand and clay	3	92
	Clay	16	108
	Rock	2	110
	Clay	3	113
[? London Clay and Reading Beds.] Green sand and clay		121	134
[Thanet] Sand		43	177
Chalk		133	310

Croydon. *Lambeth Water Co. Selhurst* (*Thornton Heath rather*). 1901.

Shaft, made and communicated by Messrs. Docwra.

		Thickness	Depth
[London Clay.]	Yellow clay	57¾	57¾
	Dark sand, with pebbles	¼	58
[Oldhaven Beds 16 feet.]	Light-coloured sand	5	63
	Dark sand	11	74
[Woolwich and Reading Beds, 31 feet.]	Blue stone	1	75
	Shells and sand	4	79
	Dark clay	2	81
	Shells and sand	5	86
	Blue clay	½	86½
	Mottled clay	15¾	102¼
	Light-coloured sand	½	102¾
	Sand and pebbles	2¼	105
[? Woolwich & Thanet.]	Green sand	19	124
	Thanet sand	38	162
Chalk		78	240

This differs in details from the account of the trial-boring (printed in the 'Transactions' for 1894–5, p. 137). The London Clay is made a little thinner, the Oldhaven Beds a little thicker, and the depth to the Chalk 3 feet less.

Croydon. *Surrey Ironworks* (*Messrs. Measures*), *Pitlake.* 1902.

(Within 100 yards of the Ice Co.'s well, described in 1901.)
Bored and communicated by Messrs. Duke & Ockenden.

		Thickness	Depth
[River Drift.]	Sand and gravel	15	15
[Woolwich and Reading Beds, 40 feet.]	Blue clay	22	37
	Yellow clay	11	48
	Green sand and clay	7	55
[Thanet Sand, 50 feet.]	Green and white sand	3	58
	White and black sand	12½	70½
	Black sand	27	97½
	Sand and clay	7½	105
Chalk and flints		195	300

Another account mades the depth to the Chalk 118 feet.

Dorking. *Messrs. Young's Brewery.*

Made and communicated by Messrs. Isler & Co.
Water-level 4 feet down. Supply 6000 gallons an hour.

		Thickness	Depth
Lower Greensand.	Pit	—	6
	Running sand	146	152
	Sandstone and running sand	3	155
	Red sand and sandstone	6	161
	Red sand	3	164
	Sand and sandstone	21	185

Dorking. *Holmwood. Brickfield. Abandoned.*

Made and communicated by Messrs. Duke & Ockenden.

[Weald Clay.]	Blue clay ...	107	155 feet.
	Red clay ...	17	
	Blue clay ...	31	

Dorking. *Shellwood Farm. For the Duke of Northumberland.* 1897.

Made and communicated by Messrs. Duke & Ockenden.

Bored to 170 feet. Water-level 68 feet down.

Dulwich. *Constance Road Workhouse, East Dulwich.*

Communicated by Mr. W. M. Binny.

65 feet above Ordnance Datum.

Boring of 12 inches diameter.

Standing water-level about 100 feet down.

Some water met with 40 feet down rose to within 30 feet of the surface. This was shut out by an iron lining tube, driven down to a depth of 190 feet.

On the first test a large quantity of the Thanet Sand, with water at the rate of 7000 gallons an hour, made its way into the bore-hole. The sand was shut out by driving the lining tubes into the chalk; but the yield of water was thereby reduced considerably. The water was pumped for a week continuously, and samples then taken were reported as suitable for domestic purposes.

		Thickness	Depth
Made Ground		3	3
[London Clay.]	Brown clay	12	15
	Blue clay	19½	34½
	Clay and shells	1½	36
	Sand and gravel [? pebbles]	3	39
[Woolwich Beds, 52½ feet.]	Clay	24	63
	Brown clay	10	73
	Flints [? pebbles]	3½	76½
	Sand	12½	89
	Flint [? pebbles]	2½	91½
[Thanet].	Fine grey sand, with water	44	135½
[Upper and ? Middle Chalk.]	Chalk with layers of flint	67½	203
	Hard chalk without flints	306	509

Total depth given as 504.

Elsted. *London and South Western Railway.* 1898 and 1899.

Two wells, made and communicated by Messrs. Duke & Ockenden.

The first a dug well to 36 feet, bored to 149.

The second, water-level 30 feet down.

Blue clay, with 8 inches of rock at 24 feet, to sand 118½ feet.

Farnham. *Castle Brewery.* 1901.

Made and communicated by Messrs. Duke & Ockenden.
Dug 62 feet, and then bored for 79 feet.
Water-level 45 feet down.

Farnham. *United Breweries Co.* 1896.

Made and communicated by Messrs. Duke & Ockenden.
Dug well (6 feet diameter) 16 feet. Bored to 132 feet.
Water-level in well 12 feet down, in bore-tube 10 feet down.

Farnham. *Wrecclesham. Mr. G. F. Roumieu's, Willey Park.* 1898.

Made and communicated by Messrs. Duke & Ockenden.
Dug well 30 feet, the rest bored. Water-level 154 feet down.

Clay	217	250 feet.
Clay and sand	15	
Sand	18	

Farnham. *Upper Hall Schools.*

Information and specimens, from Messrs. Duke & Ockenden.
Shaft 50 feet, the rest bored.

Gravel and Bagshot Sand	64	114 feet.
London Clay	50	

Farnham. *Runfold. For Mr. G. F. Roumieu.* 1900.

Made and communicated by Messrs. Duke & Ockenden.
Dug well 20 feet, the rest bored.
Well full of water. Water-level in bore-hole 57 feet from the surface.

[Gault.]	Clay	84	330 feet.
[Folkestone Beds.]	Sand	246	

Frimley. *Ridgemount, Black Down Hill.* 1896.

Communicated by Dr. A. Haviland.
Above the 350 feet contour-line [? is there such ?].
Water stood 7 feet [? from bottom].

	Thickness	Depth
Plateau gravel	6	6
Sand, varying only in colour	75	81
Clay, with sand sometimes	3	84
Sand	between 15 and 20	? 100
Bluish sand, having a sulphurous smell	5	? 105

On visiting the well a few days after the above report was taken, it was found that the thick colour of the water had disappeared, and the offensive smell had gone.

Godalming. *Munstead Heath (south-eastward from the town). Mr. P. N. Graham's.* 1896.

Made and communicated by Messrs. Legrand & Sutcliff.
Water-level 155 feet 8 inches down (May).

		Thickness FT.	IN.	Depth FT.	IN.
Pit (the rest bored)		—	—	6	0
[? Folkestone Beds.]	Red sand	5	0	11	0
	Yellow sand, with ironstone from 33¾ to 34 feet down	24	0	35	0
[? Hythe Beds, 162¼ feet.]	Buff stone, with ironstone from 51 ft. 6 in. to 51 ft. 8 in. down	24	6	59	6
	Grey limestone	6	1	65	7
	Buff sand	3	6	69	1
	Grey limestone	1	2	70	3
	Buff sand and layers of Bargate Stone	10	11	81	2
	Bargate Stone	1	9	82	11
	Buff sand and layers of Bargate Stone	24	7	107	6
	Sand and sandstone layers	7	6	115	0
	Light-buff sand	7	0	122	0
	Stiff buff sandy marl	23	6	145	6
	Greenish sand	4	6	150	0
	Grey calcareous sandstone	0	4	150	4
	Greenish buff sand	1	2	151	6
	Greenish buff sandy marl	39	6	191	0
	Buff clayey sand	6	3	197	3

Godalming. *Shackleford, W.N.W. of the town.* 1899.

Made and communicated by Messrs. Duke & Ockenden.

[? Hythe Beds.]	Sandstone	29½	82 feet.
	Clay and sand	15½	
	Sandstone	37	

Gomshall. *Mr. Gilligan's Tannery.*

From Mr. J. F. Blake's notes.

	Thickness FT.	IN.	Depth FT.	IN.
Ballast	4	0	4	0
Yellow sand	66	0	70	0
Green sand	1	0	71	0
Light-green sand	10	0	81	0
Dark green sand, almost black, with slight layer of rock (about one inch) below, where first spring was found	36	0	117	0
Dark red sand	11	0	128	0
Slight layer of rock, about 3 inches, where second spring was found, underneath 12 inches of fine transparent pebbles				
Sharp sand				

[There seems to be some doubt as to the last two beds, but there is a note that the boring reached to 140 feet.]

Second Well. November, 1888.

Tubed to 139 feet. Water rose and overflowed above 2 feet above the ground.

		Thickness FT.	IN.	Depth FT.	IN.
[Drift ?]	Ballast	4	0	4	0
[Lower Greensand. Division doubtful.]	Folkestone red sand, highly charged with water	66	0	70	0
	Green sand, very wet	1	0	71	0
	Red sand, highly charged with water	57	0	128	0
	Blue clay (as in first well)	1	0	129	0
	Shingle containing small pebbles	1	0	130	0
	Light-coloured rock	1	2	131	2
	Dark green sand	5	6	136	8
	Light-coloured rock	2	4	139	0
	Quartz and shingle, interspersed with very thin layers of chert	14	0	153	0
	Soft rock	4	0	157	0
	Hard rock	1	0	158	0
	Green sand	4	0	162	0
	Very hard rock	2	0	164	0
	Clay mixed with chalk	4	0	168	0
	Very hard rock	2	0	170	0
	Soft rock	1	0	171	0
	Blue clay	2	3	173	3

Gomshall. *Southbrook Farm.*

MSS. of the late J. H. Blake.

	Thickness FT.	IN.	Depth FT.	IN.
Ballast, gravel, and sand	8	0	8	0
Yellow sand	13	0	21	0
Rock (6 inches), and then sand and rock	48	0	69	0

Guildford. *Waterworks.* 1904.

Boring of 13½ inches diameter. (Pit of about 5 feet at top.)

Communicated by Mr. C. G. Mason, Borough Surveyor.

		Thickness	Depth
Made ground		6½	6½
[River Drift.]	Dark sand	1	7½
	Clean sharp sand	4	11½
	Sand and ballast [gravel]	6	17½
	Ballast [gravel], sand, and chalk	7	24½

		Thickness	Depth
Upper and Middle Chalk.	Chalk and flints	21	45½
	Chalk with less flints	39	84½
	Grey chalk [? marl-layer]	1½	86
	Chalk and flints in layers	29	115
	Chalk and flints, with grey layers	23	138
	White chalk	49½	187½
	Chalk marl	4½	192
	Grey chalk	59	251
	Grey chalk marl	5	256
	White chalk	4	260
	Grey chalk	28	288
	White rock chalk	24	312
	Rock chalk with flints	6	318
	Melbourn rock	11	329

Apparently the Upper Chalk goes to 138 feet, and then the Middle Chalk is reached, if the identification of the bottom bed as Melbourn Rock be right.

Guildford. *Near the Wey, about half a mile north of the railway station. For the Woking Water Co.* 1899.

Made and communicated by Messrs. Legrand & Sutcliff.
Overflowed (September).

		Thickness	Depth
[? Alluvium.]	Soil	3	3
	Clay	2	5
[River Drift.]	Sand and gravel	10	15
Blue [London] Clay. A little sand and shells in the lowest 15 feet. Pebbles at the base		52	67
[Reading Beds, 73 feet.]	Brown and blue clay	6	73
	Coloured [mottled] clay	51	124
	Green sand	15	139
	Pebbles and flints	1	140
Chalk and flints		167	307

Guildford. *West Surrey Dairy Co.*

Boring made and communicated (1901) by Messrs. Isler & Co.
Lined with 90 feet of tubes, of 4 inches diameter, 2 feet down.
Water-level 73 feet down.

		Thickness	Depth
Well (old)		—	74
[Upper Chalk.]	Chalk	7	81
	Chalk and flints	60	141
	Flints	6	147
	Hard chalk	3	150
	Chalk and flints	100	250

Haslemere. *Dene Park.* 1901.

Made and communicated by Messrs. Duke & Ockenden.

Water first struck at 70 feet. A small quantity at 93. Increased at 100–110. Water-level, when at rest, 98 feet down. Infiltration 300 gallons an hour.

		Thickness	Depth
[Hythe Beds.]	Sandstone	87	87
	Clay and sandstone	9	96
	Blue rock. Sandstone and clay alternating	14	110
[? Atherfield.]	Blue clay	9	119

Hindhead. *Wey Valley Waterworks.* 1899.

Made and communicated by Messrs. Duke & Ockenden.

Shaft 215 feet, the rest bored.

Water-level 203 feet down.

		Thickness	Depth
[Hythe Beds.]	Sandstone ...	238	238
	Blue rock	3	241
	Sandstone ...	6	247
	Blue clay	1½	248½
	Sandstone ...	33½	282
	Rock	1	283
	Sandstone ...	12½	295½

Horley. *Albert Brewery* (*Messrs. Youell & Elkin*). 1895.

Made and communicated by Messrs. Isler & Co.

Dug 3 feet, the rest a boring of 6 inches diameter.

Water overflowed at the rate of about 9 gallons a minute. Pumping goes on at the rate of 2000 gallons an hour.

		Thickness	Depth
[? All Weald Clay.]	Weald clay	11	11
	Stone	8	19
	Blue marl	41	60
	Blue marl and stone ...	19½	79½
	Stone	1½	81
	Marl	2	83
	Marl and stone	5	88
	Marl	6½	94½
	Marl and stone	91	185½
	Sandstone *	25½	211
	Marl and stone	2½	213½
	Sandstone	8	221½
	Marl	3½	225
	Marl and stone	4½	229½
	Marl	5½	235

* A letter from Messrs. Youell & Elkin (Nov. 1895) describes this 25 feet bed as limestone, and adds that an adequate supply came from it.

		Thickness	Depth
[? All Weald Clay.]	Marl and stone	16	251
	Marl	4	255
	Marl and stone	9	264
	Marl	1	265
	Marl and stone	2½	267½
	Marl	21	288½
	Sandstone	½	289
	Stone	1½	290½
	Sandstone	4	294½
	Marl and sandstone	2½	297
	Marl	3	300

Lambeth. *Commercial Road. Charing Cross and Strand Electricity Supply Corporation.*

Made and communicated by Messrs. Isler & Co.

Lined with 30 feet of tubes, of 13½ inches diameter, 6 feet down; and with 225 feet, of 10 inches diameter, 5 feet down.

Water-level 121 feet down. Yield 10,000 to 15,000 gallons an hour.

		Thickness	Depth
[Alluvium.]	Blue clay	20	20
[River Drift.]	Gravel	12	32
Blue [London]	Clay	99	131
[Reading Beds, 71 feet.]	Mottled clay	6	137
	Grey sand with pebbles	31	168
	Mottled clay	8	176
	Green sand and pebbles	26	202
[Thanet Sand.]	Dark sand	19	221
	Flints	1	222
[Upper]	Chalk	178	400

Lambeth. *Workhouse, Renfrew Road, Lower Kennington Lane.*

Made and communicated by Messrs. Isler & Co.

Lined with 170 feet of tubes, of 13½ inches diameter, a foot down.

Water-level 100 feet down. Supply 10,500 gallons an hour.

		Thickness	Depth
Made Ground		5½	5½
[River Gravel.]	Ballast	13½	19
Blue [London]	Clay	60	79
[Reading Beds, 68 feet.]	Grey sand	27	106
	Blue clay	1½	107½
	Mottled clay	12½	120
	Conglomerate	5	125
	Green sand and pebbles	22	147
Grey [Thanet]	sand	23	170
Chalk and flints		230	400

Liphook. *Mr. Rapley's.* 1890?

From Mr. W. Topley's MSS.

	Thickness ft.	Thickness in.	Depth ft.	Depth in.
Hassock. Yellow impure clayey sands overlying buff and finer grained sands	14	0	14	0
Rag and sand-rock	1	2	15	2
Hassock. Yellow clayey impure sands like those above	4	10	20	0
Bargate. Not hard, unfit for building	1	7	21	7
Hassock. Yellow and impure clayey sands	4	9	26	4
Bargate. Harder and better stone than that above. Used for garden-walks	1	6	27	10
Hassock. With two courses of Bargate stone, about 3 inches thick	2	6	30	4
Bargate. Very hard; breaks with a conchoidal fracture	1	2	31	6
Hassock. Hard and compact [but with] brown impure sands	4	10	36	4
Bargate. Very hard. Upper layers siliceous (not acted on by hydrochloric acid)	1	8	38	0
Hassock	2	0	40	0
Bargate. Very hard, from under which water came	3	0	43	0

The Bargates not regularly bedded, but in lenticular and more or less rounded concretions.

Purley. *East Surrey Waterworks. Between the Brighton and Caterham Roads, westward of the railway station.*

About 215 feet above Ordnance Datum.

Made and communicated by Mr. R. Batchelor (with notes from specimens in the Company's office at the works, in brackets).

		Thickness	Depth
Soil and Gravel [Valley Drift]		5¼	5¼
[Upper, Middle, and Lower Chalk.]	Chalk and flints	451¾	457
[Lower Chalk, ? at base Upper Greensand.]	Chalk marl, base firm	10	467
	Clay (dark chalk marl at 476 feet; light-coloured greenish sand, with glauconite-grains, ? chalky, at 478)	12	479
[Upper Greensand, 35 feet?]	Green sand, fine (like the last, but finer, at 480 feet. Pale green sand at 482, 484, rather greener, 486, 488, and 490)	12	491
	Rock	1	492
	Dark greensand rock (light-grey fine sand at every 2 feet, from 492 to 510, getting clayey going downward, and at 512 a sandy clay)	22	514
[Gault.]	Clay (sandy clay, every 2 feet, from 514 to 521½)	8	522

A large supply of water has been got at these works.

Puttenham. *The Priory* (*Messrs. Bell Stewart & Co.*). 1900.

Boring made and communicated by Messrs. Legrand & Sutcliff.

Water-level 63½ feet down (October).

Well (old), the rest bored	68½	121 feet.
Sand (Folkestone Beds)	52½	

Tatsfield. *East of Titsey Wood. Boring for the Limpsfield and Oxted Water Co.* 1900.

From a statement furnished by the foreman to Mr. Landale (Chairman).

(All below 305 feet and all in these brackets communicated by Mr. R. F. Grantham.)

When the boring was 296½ feet deep, water stood at the depth of 89 feet. On Nov. 17th, at over 305 feet, it was 86½ feet. Dec. 14th, 78 feet down (end).

10,000 gallons an hour, day and night, were pumped for a fortnight, and Mr. Grantham thinks that more could have been got with a permanent pump (Aug. 1901).

		Thickness ft.	Thickness in.	Depth ft.	Depth in.
Soil, clay and loam mixed		10	0	10	0
[Gault.]	Blue clay	41	6	51	6
	Loamy sand (clay)	15	0	66	6
[Folkestone Beds, 211 ft.]	White sand (water first met with at 89 feet).....	26	0	92	6
	Pale yellow sand (buff)	37	6	130	0
	Yellow sand.....	20	0	150	0
	Rock, hard (ironstone)	1	6	151	6
	Yellow sand.....	12	6	164	0
	Rock, hard (ironstone)	1	0	165	0
	Yellow sand.....	19	0	184	0
	Pale yellow fine sand (buff)	41	0	225	0
	Yellow sand, a shade coarser [than above] (darker buff)	40	0	265	0
	Dark yellow sand	12	6	277	6
[? Sandgate Beds.]	Blue clay (dark) and green sand, mixed	6	6	284	0
[Hythe Beds.]	Hard rock [Specimen simply dark sand, not rock]	66	0	350	0

An account from Messrs. Isler & Co. differs in details, making the thickness of the Gault and of the Sandgate Beds a little less, that of the Folkestone Beds and of the Hythe Beds a little more.

Upper Norwood. *Brewery, Chapel Road, midway between Knights Hill Road and Elder Road.* 1901.

Communicated by Sir B. Baker.

192 feet above Ordnance Datum. Shaft, of 5 feet diameter,

116 feet, with perforated tube of $11\frac{1}{2}$ inches diameter, of 84 feet. Supply about 100 gallons an hour. Temperature of the water $54\frac{1}{2}^{\circ}$ (September).

		Thickness FT.	IN.	Depth FT.	IN.
? Undescribed		21	0	21	0
[London Clay.]	Clay	174	6	195	6
	[Basement Bed.] Pebbles	2	3	197	9
	[Basement Bed.] Oyster-shell rock	0	6	198	3
	[Basement Bed.] Pebble and dark sand	1	2	199	5
[Woolwich and Reading Beds, $67\frac{1}{3}$ feet.]	Sand	8	8	208	1
	Blue clay and shells	5	5	213	6
	Sand	7	5	220	11
	Rock, sand and shells	5	9	226	8
	Clay and marl (hard)	7	1	233	9
	Clay	10	9	244	6
	Pebbles and sand	7	6	252	0
	Sand (hard)	11	6	263	6
	Sand (hard) and pebbles	3	3	266	9
[Thanet Sand, $29\frac{1}{4}$ feet.]	Sand	25	0	291	9
	Flints	4	3	296	0
Chalk and sand		?4	0	300	0

Wandsworth. *Public Baths, High Street.*

Made and communicated by Messrs. A. C. Potter & Co. Supply 5000 gallons an hour.

		Thickness	Depth
Made Ground		6	6
[River Drift.]	Sand and ballast	6	12
[London Clay, $172\frac{1}{2}$ feet.]	Blue clay, with claystones at the depths of 29 to $29\frac{1}{2}$, 50 to $50\frac{1}{4}$ feet	$38\frac{1}{4}$	$50\frac{1}{4}$
	Clay	$45\frac{3}{4}$	96
	Loamy clay, 6 inches of claystone at the bottom	9	105
	Clay	68	173
	Sandy clay	$10\frac{1}{2}$	$183\frac{1}{2}$
	Hard pebbles and shells [basement-bed]	1	$184\frac{1}{2}$
[Woolwich and Reading Beds, $60\frac{1}{2}$ ft.]	Clay and shells	$8\frac{1}{2}$	193
	Mottled clays, brown, yellow, red and grey (four beds)	34	227
	Grey sandy clay	6	233
	Pebbles and sand	11	244
	Clay and pebbles	1	245
[Thanet Sand, $30\frac{1}{2}$ feet.]	Dead sand	9	254
	Sand	12	266
	Loamy sand	9	275
	Green-coated flint	$\frac{1}{2}$	$275\frac{1}{2}$
[Upper Chalk.]	Dense chalk and flints	96	$371\frac{1}{2}$
	Soft chalk and flints, water-bearing	$79\frac{1}{2}$	451

Windlesham. *Highams.*

Boring, from bottom of old well, made and communicated by Messrs. Merryweather.

Abandoned, not sufficient water.

		Thickness	Depth
Old well.	Strata not known	—	39
[Bracklesham Beds.]	Loam	4	43
	Green loam	5	48
	Green sand	5	53
	Green sand with seam of light-coloured clay	6	59
	Light-coloured clay or marl	6	65
	Tough clay	6	71
	Tough mottled clay	6	77
	Hard mottled clay	5	82
	Mottled clay	4	86
[Bagshot Sand, 108 feet.]	Green loam	27	113
	Green sand	25	138
	Sandstone	4	142
	Running sand	3	145
	Live sand	14	159
	Green sand and pebbles	7	166
	Dark sand	5	171
	Live sand	14	185
	Dark loam	9	194

15.—Description of some Fossils from a Croydon Garden.

By George J. Hinde, Ph.D., F.R.S.

(Plates I. and II.*)

(Read October 18th, 1904.)

I wish to call the attention of the Society to some fossils, now exhibited, which have been collected in my garden at South Croydon from time to time during the last eighteen years. The garden is situated on the higher part of the west slope of the valley along which the Brighton Road runs. The Chalk is here near the surface, and is only covered by a layer of soil about a foot in thickness. This surface soil consists of chalky *débris* commingled with a brownish sandy loam, the residue of the Eocene Tertiary deposits which once spread over the area. The fossils are found in this surface soil, and they have evidently been weathered out of the Chalk where they now occur. There is no evidence for assuming that they have been brought to their present position from a distance, though in some cases, perhaps, they may have been washed down from the higher part of the slope by the action of rain.

The fossils are, for the most part, rounded bodies ranging from the size of a mustard seed to that of a large playing marble; they are of a greyish tint, much resembling water-worn pebbles of Chalk, and to an ordinary observer they would doubtless appear of this character, and would not be considered worth picking up to look at. Until very lately they do not seem to have been noticed by geologists in the Chalk of this neighbourhood, and there is no mention of them in the lists of fossils in the Chalk of the railway cuttings between Croydon and Oxted, so carefully drawn up by the late Caleb Evans, unless, perchance, they are included in the term *Coscinopora*.†

But that these bodies are altogether different from mere Chalk pebbles can be proved by examining them with a lens, their surfaces will then be seen to consist of a very fine reticulation or network formed by the junction of small bodies with four arms or rays (Pl. II., figs. 2, 4). These are connected so as to bound small rounded holes which are the apertures of canals radiating from the centre of the fossil. On splitting open a specimen the canals appear as fine straight lines (Pl. I., fig. 6). When well

* By the kind permission of the Council of the Royal Microscopical Society, these plates have been reproduced from the Journal of the Society for February, 1904.

† Geologists' Association, 1870, p. 30.

preserved, moreover, the outer surface of these fossils is studded over with minute slightly projecting spines (Pl. II., figs. 1, 8, 9), more readily perceived by a rasping sensation when the finger is rubbed over them than with a lens.

The interior of the fossils is generally solid, for the canals and other microscopic interspaces have now been filled up by calcite, or by an infiltration of silica. The frequent occurrence of this latter substance has given rise to an impression that the fossils were originally of silica, but it is now definitely known that when unaltered by fossilization the skeleton mesh-work is of carbonate of lime.

A closer study of the structure of these fossils can only be made by means of sections sufficiently thin to be transparent under the microscope. These, however, as a rule, only show a confused mass of delicate fibres closely interwoven together, and until a clue is obtained to the character of the individual constituents of the fibres and the manner in which they are united together, it is very difficult to understand the nature of the organism. As a consequence much division of opinion has arisen in the past among palæontologists respecting these fossils, and they have in turn been referred to various groups of the animal kingdom.

By some fortunate circumstances, mentioned later on, some specimens were sent to me which proved conclusively that these fossils were sponges with a spicular skeleton of carbonate of lime. The spicules consist of four arms or rays (Pl. II., fig. 5); one of these is elongate, tapering to a fine point, and furnished with lateral prickles or spurs; at the base of this long or apical ray there are three short, curved, divergent rays with blunt terminations. These individual spicules are connected together to form the skeleton of the sponge in such a manner that the elongate apical ray is always directed towards the outward growing surface of the sponge, and remains free or partially free (Pl. II., figs. 1, 8, 9); while the three short basal rays of the spicule are firmly welded by their truncate ends to adjacent spicules, and form a porous mesh-work which bounds the radial canals (Pl.II., figs. 1, 2, 4). The union of the basal rays is so close and intimate, that in microscopic sections of the fossils the individual spicules can be seldom distinguished (Pl. II., figs. 6, 9), but they are shown on the surface of well-preserved specimens (Pl. II., figs. 2, 4).

A very perfect specimen of one of these sponges in an early stage of growth was sent to me by Mr. H. Muller, of Eltham, Kent. It is hardly as large as an ordinary pin's head, and is embedded in a fragment of flint. As shown in the figure (Pl. II., fig. 1), the outer surface is bristly, with the apical rays of the spicules all directed outwards, whilst the short basal rays are fused together. The further growth of the sponge is produced by the formation of successive layers of spicules, which overlap

each other and grow together so intimately that the full-grown sponge has a firm, stony character, which enables it to resist disintegration. Mr. Muller's specimen, which he supposed to be a radiolarian, furnished me with an important clue to the real structure of these fossils.

In their perfect condition these sponges appear to have been provided with a thin outer layer which covered the stony resistant skeleton just described. This dermal layer is composed of small spicules of various forms, some simple rods, others with three or four rays (Pl. II., figs. 3, 7). These spicules are only commingled or interfelted together, and not welded as the spicules of the sponge-body. Rarely is any definite arrangement shown, but in one instance they are concentrically disposed round a pore-like opening (Pl. II., fig. 10). Owing to the absence of any definite connection in the component spicules, this outer covering seems to have readily fallen to pieces after the death of the organism, and very rarely are portions of it preserved on the outside of the fossils. Out of a total of about 3000 specimens* I have only detected it in 18, some of which are figured (Pl. I., figs. 7, 8, 15, 20, 25). In none of the Croydon specimens is it shown.

These Chalk sponges were first referred to the genus *Millepora* by the late Professor John Phillips in 1829; since then they have been placed in various genera, according to the views held of their affinities, until at last, in 1878, Professor Steinmann proposed a distinct genus for their reception, and gave it the name of *Porosphæra*. He considered the fossils, however, to be hydrozoa, and not sponges. Several species have been described; they are all closely allied, and most of them are represented in the collection exhibited.

Porosphæra globularis is the commonest form; it is usually rounded like peas or marbles, but sometimes oval, loaf- or cushion-shaped, and without any distinctive base (Pl. I., figs. 1–10).

P. nuciformis is typically pear-shaped, occasionally also melon- or loaf-shaped, with longitudinal ridges and shallow grooves which converge to the obtuse pole of the sponge (Pl. I., figs. 11–18).

P. Woodwardi is oval or rounded, with well-marked branching canals which converge to one or more points on the surface. It has a concave and rugose base (Pl. I., fig. 19). This species has only been found in the Grey Chalk of Dover and in Dorset.

P. pileolus is thimble- or inverted cup-shaped, sometimes hemispherical, with a deeply concave, cup-shaped base, and thick walls (Pl. I., figs. 20–21*a*).

P. patelliformis is limpet-shaped, with peaked summit, a deeply

* The large majority of these were collected by my friend Dr. A. W. Rowe, F.G.S., during his well-known researches in the zones of the White Chalk of the English coast, and I am greatly indebted to him for the opportunity of examining them.

concave or occasionally flattened base, and relatively thin walls (Pl. I., figs. 22–26 *a*).

P. arrecta is conical or pillar-shaped, the base concave, with thin margins (Pl. I., figs. 27–28 *a*).

Up to the time of writing I have obtained from my Croydon garden 683 specimens of *Porosphæra*; 624 of these belong to *P. globularis*, 32 to *P. nuciformis*, 24 to *P. pileolus*, and 3 to *P. patelliformis*. The smallest specimen found is only 4 mm., whilst the largest is 27 mm. in diameter. The Chalk of this locality has hitherto been included in the zone of *Micraster coranguinum*, but the comparatively large size of many of these sponges and the occurrence in the same area of *Offaster pillula*, Lam., indicate the possibility that it may be in the next higher zone of *Marsupites*. This supposition is strengthened by the late discovery of *Marsupites* and *Uintacrinus* in the Chalk at Beddington.*

Specimens of *Porosphæra* may be found sparingly in most exposures of the Chalk in Croydon, when carefully searched for, and I have picked them up in fields, more particularly round the base of Croham Hurst, where the Chalk is near the surface. They are, however, more numerous and more readily met with in the Chalk cliffs at Margate, Dover, Newhaven, near Brighton, the Isle of Wight, and in Dorset; also near Flamborough, Yorkshire. Specimens obtained direct from the Chalk are, as might be expected, in a better state of preservation than those which have been weathered out on the surface of fields.

Recent calcisponges with a skeleton of fused spicules, like that of *Porosphæra*, were unknown till 1892, when Prof. Dr. Döderlein, of Strassburg, announced the discovery of a sponge of this character from the Japanese Sea, to which he gave the name of *Petrostroma Schulzei*. The full description and figures which appeared five years later† distinctly showed a close resemblance in structural characters to *Porosphæra*, and I was enabled to confirm this by an examination of a fragment of the recent sponge, kindly given to me by Dr. Döderlein.

Shortly after, in 1898, I received from Mr. T. S. Hall, M.A., of the University of Melbourne, Australia, a small insignificant-looking fossil from beds of Tertiary age near Geelong, which he thought might be some sort of a sponge. To my great surprise it was a calcisponge with a spicular structure similar to that of the Chalk *Porosphæra* and the recent *Petrostroma* from the Japan Sea. It was so beautifully preserved that the details of the skeleton-mesh could be seen as distinctly as in recent specimens, and I made it the type of a new genus, *Plectroninia*.‡

* Geological Mag., dec. v. vol. i. 1904, p. 482.
† Zoolog. Jahrbuch, Bd. 10, 1897, p. 15.
‡ Quart. Journ. Geol. Soc., vol. 56, 1900, p. 51.

The unexpected discovery of the recent Japanese sponge and the Tertiary form from Australia with structures so closely related to those of the Chalk *Porosphæra* clearly establish that this latter genus is a calcisponge with the skeleton spicules fused together. Dr. Rauff has placed these sponges in a separate order, the *Lithonina*.*

There is one feature of more general interest in connection with these Chalk sponges which may be mentioned. Many of the rounded and pear-shaped specimens have a cylindrical hole or perforation, which in some cases extends only for a short distance and terminates blindly, but more frequently it passes quite through the specimen, so that it is a genuine bead (Pl. I., fig. 1). At one time these perforations were thought to be artificial, and due to human agency; but it is now generally admitted that they are natural, and probably arise from the sponge after having passed through the early, mobile stage of its existence, fixing itself on and growing round the stem of a seaweed or some other marine organism not capable of preservation in the fossil state. On the decay and disappearance of the supporting body the more resistant sponge would be left with the hollow cast, which subsequently becomes filled with the soft chalky matrix as we now find it.

Both in this country and in the North of France these sponge-beads have been found in association with the remains of the "River Drift" folk; and it has been surmised by Sir John Evans, the late Sir Charles Lyell, and other writers, that these prehistoric inhabitants may have used them for personal adornment. To show their suitableness for this purpose I have strung those picked up in my garden—seventy-seven in number—and it will be seen that the necklace which they form might well prove attractive to a primitive race.

In addition to *Porosphæra*, described above, the same beds of Chalk in this part of Croydon contain another kind of sponge so generally similar in form and size to *Porosphæra*, that the two are frequently confounded with each other. The form referred to much resembles a small weathered flint pebble; some specimens, when broken open, are found to be of nearly solid flint, with slight traces of spicular structure; in others there is a comparatively thin outer layer of flint completely enclosing a loose central core or kernel of porous flint, which is the cast of the sponge. These sponges have a siliceous skeleton of irregular, four-rayed warty spicules connected into a mesh-work; thus very distinct from the skeleton of *Porosphæra*. The late Prof. v. Zittel placed them in the Lithistid genus *Plinthosella*. Proportionally they are less numerous than *Porosphæra*, but 225 specimens have been collected in the same garden area.

* Palæontographica, Bd. 40, 1893, pp. 203, 204.

EXPLANATION OF PLATE I.

The figures are of natural size, except where otherwise indicated.

Fig. 1. *Porosphæra globularis*, Phillips, sp. Large oval specimen, with tubular perforation. Zone of *Micraster cor-anguinum*; South Croydon, Surrey. Collection of G. J. Hinde.

,, 2. Ditto; showing overlapping layers of growth. Zone of *Marsupites*; Margate, Kent. Collection of Dr. A. W. Rowe, F.G.S.

,, 3. Ditto; loaf-shaped. Zone of *Belemnitella mucronata*; Ballard Cliff, Dorset coast. Collection of Dr. Rowe.

,, 4. Ditto; cushion-shaped specimen. Zone of *Bel. mucronata*; Ballard Cliff. Collection of Dr. Rowe.

,, 5. Ditto; of average size. Zone of *Actinocamax quadratus*; Cliff, east of Brighton. Collection of G. J. Hinde.

,, 6. Ditto; median section, showing the arrangement of the radial canals. Upper Chalk. Collection of G. J. Hinde.

,, 7. Ditto; completely enveloped with a spicular dermal layer. Zone of *B. mucronata*; Ballard Cliff. Collection of Dr. Rowe.

,, 8. Ditto; partially covered with an uneven dermal layer. Same zone and locality as the preceding. Collection of Dr. Rowe.

,, 9, 10. Ditto; loaf-shaped specimens, showing faint indications of surface grooves. Zone of *Marsupites* (*Uintacrinus* Band); Thanet coast. Collection of Dr. Rowe.

,, 11. *Porosphæra nuciformis*, v. Hagenow, sp. Viewed from above, showing the convergence of the grooves at the summit. Zone of *Marsupites* (*Uintacrinus* Band); Margate. Collection of Dr. Rowe.

,, 12. Ditto; side view. Zone of *A. quadratus*; near Newhaven. Collection of Dr. Rowe.

,, 13. Ditto; showing closely-arranged grooves. Zone of *A. quadratus*; Winchester. Collection of Dr. Rowe.

,, 14. Ditto; with prominent apex. Zone of *A. quadratus*; Sussex coast. Collection of Dr. Rowe.

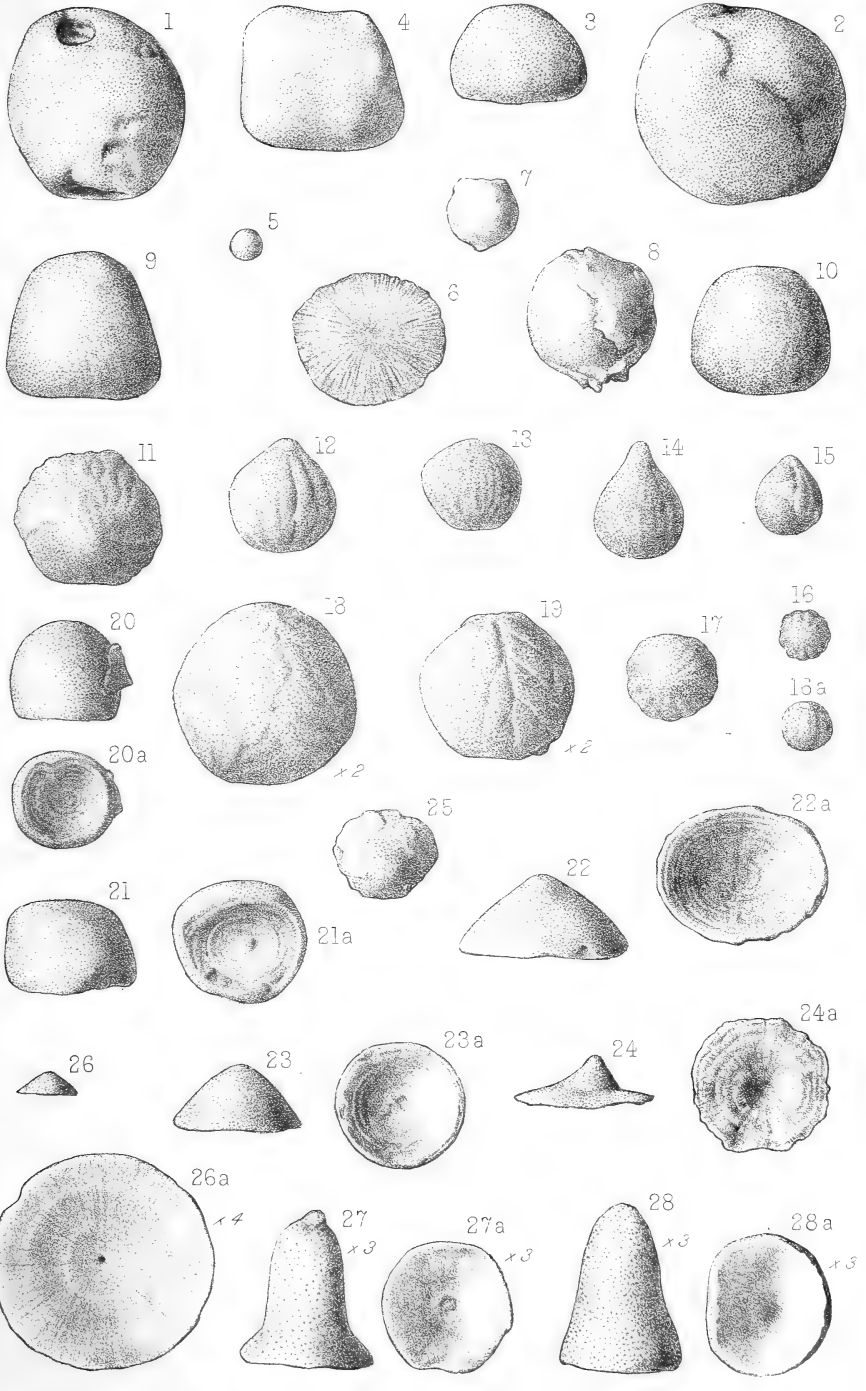
,, 15. Ditto; with fragments of the dermal layer. Zone of *A. quadratus*; near Newhaven. Collection of Dr. Rowe.

,, 16, 16*a*, Ditto; viewed from above and in profile. Zone of *Marsupites* (*Uintacrinus* Band); Thanet coast, Kent. Collection of Dr. Rowe.

,, 17. Ditto; viewed from above. Same zone and locality as the preceding. Collection of Dr. Rowe.

,, 18. Ditto; with surface grooves and ridges radiating from several centres. × 2 diam. From same zone as the preceding; Sussex coast. Collection of Dr. Rowe.

,, 19. *Porosphæra Woodwardi*, Carter, sp. Showing the branching surface canals. × 2 diam. Zone of *Holaster subglobosus*; Dover. Collection of Dr. Rowe.



G.M.Woodward del.et lith.

West, Newman imp.

POROSPHÆRA FROM THE ENGLISH CHALK.

Fig. 20, 20*a*. *Porosphæra pileolus*. Thimble-shaped specimen, with a fragment of dermal layer on the exterior; the base (20*a*) showing concentric bands of growth. Zone of *A. quadratus*; near Newhaven. Collection of Dr. Rowe.

,, 21, 21*a*. Ditto. Zone of *Marsupites* (*Uintacrinus* Band); Thanet coast. Collection of Dr. Rowe.

,, 22, 22*a*. *Porosphæra patelliformis*, sp. n. Viewed in profile (22); the deeply concave base (22*a*) showing concentric lines of growth and faint radial lines. Zone of *A. quadratus*; Sussex coast. Collection of Dr. Rowe.

,, 23, 23*a*. Ditto; a conical specimen, viewed in profile (23); the base with faint concentric lines of growth (23*a*). Zone of *Marsupites* (*Uintacrinus* Band); Thanet coast. Collection of Dr. Rowe.

,, 24, 24*a*. Ditto; a depressed specimen, viewed in profile (24); the base with concentric and radial lines (24*a*). Same zone and locality as the preceding. Collection of Dr. Rowe.

,, 25. Ditto; viewed from above, showing some fragments of the spicular dermal crust. Same zone and locality as the preceding. Collection of Dr. Rowe.

,, 26, 26*a*. Ditto; a small specimen, viewed in profile, natural size (26); and the concave base, with rod-like spicules radiating from the centre to the margins, enlarged 4 diam. (26*a*). Zone of *Terebratulina gracilis*; East Cliff, Dover. Collection of Dr. Rowe.

,, 27, 27*a*. *Porosphæra arrecta*, sp. n. Viewed in profile (27), and showing the base (27*a*), enlarged 3 diam. Zone of *Rhynchonella Cuvieri*; Branscombe Cliff, South Devon coast. Collection of Dr. Rowe.

,, 28, 28*a*. Ditto; showing the exterior and the basal aspect, enlarged 3 diam. Zone of *Marsupites* (*Uintacrinus* Band); Thanet coast. Collection of Dr. Rowe.

EXPLANATION OF PLATE II.

Fig. 1. *Porosphæra globularis*, Phill., sp. A small specimen, preserved in flint, showing the spicular structure of the exterior. × 50 diam. Upper Chalk; near Sidcup, Kent. Collection of Mr. H. Muller.

,, 2. Ditto; portion of the outer surface, showing the arrangement of the skeletal spicules bounding the apertures of the radial canals. × 40 diam. Zone of *Belemnitella mucronata*; Ballard Cliff, Dorset coast. Collection of Dr. Rowe.

,, 3. Ditto; three-rayed spicules of the dermal layer. × 100 diam. Zone of *Actinocamax quadratus*; Scratchell's Bay, Isle of Wight. Collection of G. J. Hinde.

,, 4. *Porosphæra nuciformis*, v. Hag., sp. Portion of the surface, showing the skeletal spicules and the radial canal apertures. × 40 diam. Zone of *A. quadratus*; Cliff, east of Brighton.

,, 5. *Porosphæra pileolus*. A four-rayed mesh spicule, the apical ray armed with lateral prickles. From a microscopic section near the margin of the specimen. × 200 diam. Zone of *Micraster cor-anguinum*; South Croydon. Collection of G. J. Hinde.

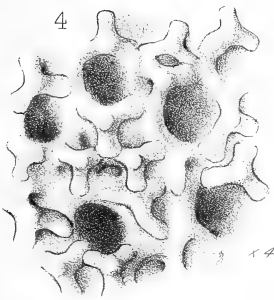
,, 6. *P. globularis*. A portion of the skeletal mesh, showing its structure of four-rayed spicules, the basal rays of which are now fused together. × 100 diam. Zone of *M. cor-anguinum*; South Croydon. Collection of G. J. Hinde.

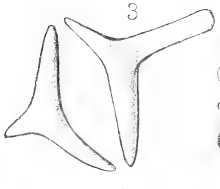
,, 7. Ditto; a fragment of the dermal layer, showing three- and four-rayed spicules irregularly intermingled. × 50 diam. Zone of *B. mucronata*; Ballard Cliff, Dorset coast. Collection of Dr. Rowe.

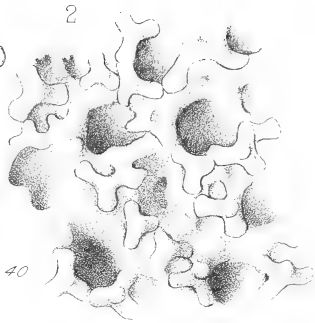
,, 8. Ditto; a small specimen preserved in chalk, showing blunted apical rays of spicules projecting from the surface. × 40 diam. Upper Chalk, Gravesend, Kent.

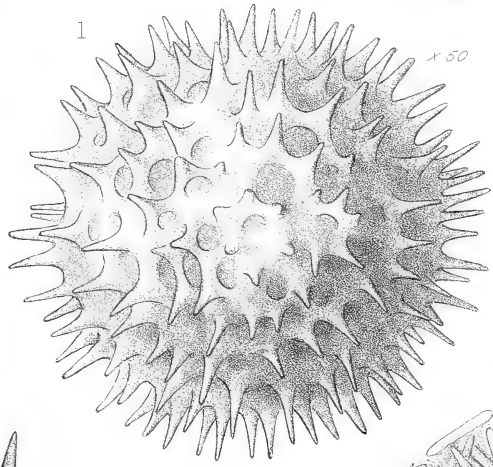
,, 9. Ditto; the skeletal mesh near the margin of a specimen preserved in flint, showing the curved facial and the projecting apical rays of four-rayed spicules. × 40 diam. Upper Chalk; Chatham. Jermyn Street Museum.

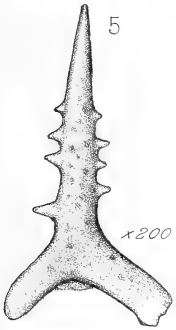
,, 10. Ditto; portion of the outer surface of the dermal layer, showing rod-like spicules arranged concentrically round a central pore (?). × 50 diam. Zone of *Belemnitella mucronata*; Ballard Cliff, Dorset coast. Collection of Dr. Rowe.

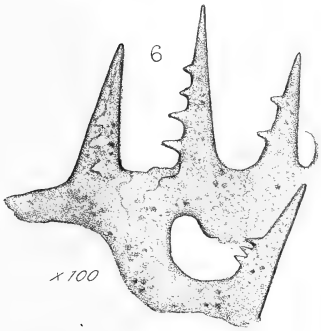


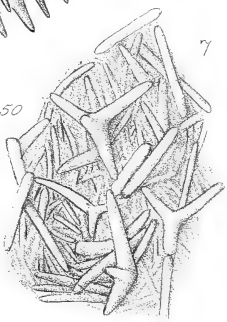


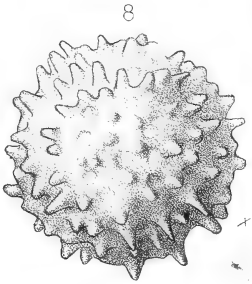


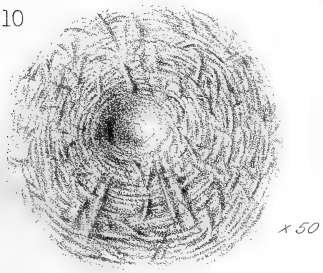


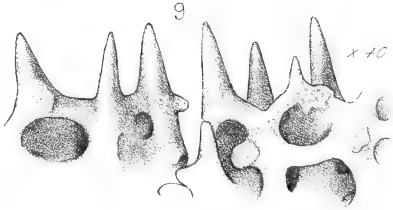












G.M.Woodward del.et.lith.

West, Newman imp.

POROSPHÆRA FROM THE ENGLISH CHALK.

1 2 3 4 5 6

RELICS, BERMONDSEY ABBEY.

1. Pinmaker's Tool.
2. Pilgrim's Bottle.
3. Birdcage Water-Holder, Modern?
4. Thirteenth Century Jug.
5. Seventeenth Century Apothecary's Jar.
6. Mediæval Bottle.

To face p. 95.

16.—Notes on Bermondsey Abbey.

By N. F. Robarts, F.G.S.

(Read November 15th, 1904.)

Some recent excavations on the site of Bermondsey Abbey led to an offer by Mr. C. Morgan Smith to lend to our Loan Museum some specimens of pottery, &c., which had been found during the work of building some houses for the South Eastern Railway. At the same time Mr. Smith kindly offered to place any information he possessed at my disposal if I would write some notes upon the specimens and other discoveries, an offer I was very glad to avail of.

It would, I thought, be of interest to this Society if I could at the same time give a little information about the Abbey of Bermondsey, respecting which I then had no knowledge, an ignorance which possibly I shared with other members. I have accordingly collected some information relative to this "forgotten Monastery," as Sir Walter Besant called it, and beg to submit a few particulars which should be of interest to our Society in view of the very intimate connection which existed between the Abbey of Bermondsey and the parish of Croydon.

Bermondsey, probably best known to most of us by its market gardens, now almost extinct, and its tanneries with their distinctive aroma, as we pass them on the railway, is so different from what it was even one hundred years ago, that I think we should first try to realize the original environment of the Monastery.

Founded very shortly after the Norman Conquest in A.D. 1089, the Priory of Bermondsey stood about half a mile south of the Thames, half a mile from where now stands London Bridge, and half a mile from the Kent or Dover Road. The conventual buildings stood on a flat meadow through which ran sundry watercourses, giving the neighbourhood the name of Bermond's Ey or Island. The etymology of Bermond is disputed, and need not detain us, but the Ey is doubtless the Saxon word for island.

We must remember that the south side of the river was more or less a marsh, probably often flooded, the only road being the causeway leading from the bridge near St. Mary Overie's to where St. George's Church now stands, from which branched off the Dover Road, whilst the causeway itself continued straight on to the higher ground of Clapham.

The only approaches to the Monastery were by the present Tooley Street leading from the bridge to the Monastery, or by

the country path—now Long Lane—from the junction of the Dover Road with the causeway.

There would have been a few houses along the causeway, the forerunners of the famous inns of the Borough, and possibly a few fishermen's huts along the river-bank; but the City of London, guarded by the Tower at its eastern boundary, ended almost opposite the Monastery, and stood on the high gravel cliff overlooking the marshy meadows on the south side of the river, protected by the South work, as the Roman embankment was called, now giving us the district known as Southwark.

Four hundred and fifty years later the environment of the Monastery had altered very little—there were several large houses in Tooley Street near the bridge; St. Thomas's Hospital and the large inns stood near or in the Borough High Street, and probably houses had begun to creep along the Dover Road and gather near the parish church of St. Mary Magdalen of Bermondsey, but the country aspect was still prevalent, and even at the beginning of the last century the fields were still open, as you can tell for yourselves if you now walk through the length and breadth of Bermondsey, for you will hardly find a house more than a hundred years old whilst the wilderness of bricks and mortar, most of it squalid, did not then exist.

The site where the Monastery stood lies directly south of the present Tower Bridge. To the north-west stood the parish church of St. Mary Magdalen; Bermondsey Square, or what is left of it, marks the position of the main court of the Abbey; whilst Abbey Street, between Long Walk and the wall of the parish churchyard, occupies the place where stood the conventual church.

The farm buildings are kept in memory by Grange Walk and Grange Road, and the site of part of the conventual burying-ground is occupied by the new dwellings belonging to the South Eastern Railway Company. Crucifix Lane—by some said to be a corruption of Christopher Lane, but which I prefer to think commemorates a crucifix erected there—led to the Abbey; and Pickle Herring Wharf was doubtless connected by a road with the Abbey for it was the landing-place for the Abbey's supply of sea fish.

It is therefore comparatively easy to locate the position, although hardly a stone now remains to show the site of what was once one of the three most famous and powerful monasteries in England.

The founder of the Monastery was one Alwin Child, a citizen of London, who in 1081 built a church in Bermondsey, which he dedicated to the Saviour.

A few years later, in 1089, he annexed to it a Convent of Cluniac monks, four of whom were sent here in that year, at the instigation of Archbishop Lanfranc, from the Priory of La Charité sur la Loire, to which priory Bermondsey became subordinate as a cell.

The Cluniacs were a most rigid sect of Benedictines, so called from their Abbey at Clugni.

Bermondsey was therefore an alien priory acknowledging the jurisdiction of, and collecting revenues for, the Priory of La Charité sur la Loire, thus encouraging the export trade—an economical proceeding which afterwards led to difficulties.

Reference is made to, in 'Domesday,' Alwin Child's church where it is described as "Nova et pulchra Ecclesia," but no traces of this church have been preserved.

In 1094 William Rufus endowed the monastery with the Manor of Bermondsey, and from this date we may trace the rise in power and influence of the prior and monks until the dissolution of the monastery by Henry VIII. The grant of the manor was confirmed by Henry I. in 1127, who also gave to the priory the Manors of Rotherhithe and Dulwich, and William Maminot at the same time gave it a moiety of the Manor of Gravesend.

At this date also began a connection between the monastery and Croydon, which lasted for upwards of four hundred years, for in the twenty-seventh year of his reign Henry I. granted to the priory the Manor of Whaddon, or Woddens, in Croydon, which they kept possession of until the 14th of Richard III., when they exchanged it to the Archbishop of Canterbury for the Rectory of Croydon. The priory became so closely related with various properties in Surrey, that it may interest you if I refer to its different Surrey possessions more particularly.

In 1144 William de Watteville gave the convent the Manor of Warlingham with the consent of Robert, William, and Otwell, his sons, which manor in the 11th of Edward II. the monks had licence to devise to Robert de Kelesey for life; and in 1152 the convent appears to have had two carucates of land at Legham, in the parish of Godstone, in Surrey, probably given to them at about that date. In 1159 King Henry II. confirmed to the priory the donation of the church of Camberwell and others; and Henry III. granted the monks a market every Monday at their manor of Charlton, in Kent, and a fair on Trinity Sunday yearly. I should mention that this fair had no connection with the celebrated "Horn" fair at Charlton.

In 1173 the priory received from King Henry II. a charter of free warren over all their lands in Surrey.

In the reign of Edward III. the priory of Bermondsey was sequestered with other alien priories for the use of the Crown; but Richard III. re-established it, and subsequently, in 1380, for a fine of two hundred marks, enfranchised it, thus enabling its members to purchase and possess lands in their own right. In 1399 Henry IV. converted it into an abbey, and thus the monks were more fortunately placed than other alien priories

when in 1408 Henry took for his household expenses all the revenues of alien priories and the income of all vacant bishoprics and abbeys.

No doubt the parent priory of La Charité raised protests against this fruitful source of income passing out of its possession; and indeed we learn a little later, in 1457, that the Abbot of Cluni sent over three monks to the King, to substantiate his claims to the House of Bermondsey.

The ambassage was unsuccessful; the King would hardly give them a hearing; one of the monks died here, the other two returned home, one of them having first written the following letter to the Abbot of St. Albans:—

"For the rest, be it known to you, my Lord, that after having spent four months and a half on our journey and following our Right with the most serene Lord the King and his Privy Council, we have obtained nothing; nay, we are sent back very disconsolate, deprived of our Manors, our Pensions alienated, and what is still worse, we are denied the obedience of all our Monasteries, which are 38 in number: nor did our Legal Deeds, nor the Testimonies of your Chronicles avail us anything, and at length after all our pleading and expenses, we return home moneyless, for in truth after paying what we have eaten and drunk, we have but five crowns left, to go back about 260 leagues. But what then? We will sell what we have, we will go on; and God will provide. Nothing else occurs to write to your Paternity; but that as we entered England with joy, so we depart thence with sorrow; having buried one of our Companions—viz. the Archdeacon, the youngest of our Company. May he rest in Peace. Amen."

Poor monks! Henry VIII. was not the only king who found it advantageous for himself and the commonwealth to reduce the powers and revenues of the religious orders.

In 1338 the church of this house appears to have been dedicated afresh, with several of its numerous altars. The cloister and refectory were either built or rebuilt by Prior Dunton in 1380, who covered the nave of the church with lead, and made new with glass the windows of the presbytery in 1387.

In 1397 the prior and convent had a grant of the hundreds of Brixton and Wallington (which then included Croydon), with the return of writs, &c., within the same, which was afterwards confirmed to them by letters patent of King Henry VI.

In 1430 Abbot Thelford covered the cloister with slate, "cum petra vocata slat." This is interesting as being, as far as I know, the first time the use of slate is recorded. One wonders whether they were Horsham slates, or Welsh.

The various transactions respecting property in Surrey appear to have been as follows:—

In 1318, 11th & 12th Edward II., the convent agreed with Walter Reynolds, Archbishop of Canterbury, for the purchase of two acres of land in Croydon of the yearly value of two shillings (I wonder where that land is situate), with the advowson of the rectory there; and in 14th Edward II., for the rectory itself and advowson of the vicarage, in exchange for a hide of land at Withflete, with the mills valued at ten marks per annum, and other appurtenances in Southwark, and a yearly rent of £28 13s. 11d., formerly given them (13th Henry I.) by Robert Marmion; but this sale was never concluded.

In 1390, 14th Richard II., the priory, with consent of William Courtney, Archbishop of Canterbury, patron, John Godewyke, then rector, obtained a grant of the Rectory of Croydon in exchange for the Manor of Woddens or Whaddon, in that parish, the said Monastery to be exempted from all tithes arising and becoming due to the said rectory in future. It was agreed by indenture annexed that, in presenting to the vicarage on every future vacancy, the archbishop should nominate two clerks, whereof the convent should present one for institution. Amongst those instituted were—Richard Bondon (7th Aug. 1402); John Scarburgh, *alias* Causton (20th Jan. 1408); Henry Carpenter (30th Oct. 1487); William Shaldo (3rd Dec. 1487).

In 1307 they had also a certain portion of the tithes of Cheyham, in Surrey, in lieu of which they received of the rectory a pension of two marks.

In 1497, on 4th June, the Abbot and Convent of St. Saviour's, Bermondsey, conceded (*pro hac vice*) to the archbishop the nomination to the parochial church of Croydon, vacant by the death of Mag. William Shaldo, when Roland Phylippis was collated to the vicarage by Archbishop Morton.

By an indenture, Monday, the first week in Lent, the 14th of King Henry II., it was agreed that the collation and patronage of the vicarage of Croydon should remain in the archbishop and his successors, and that upon a vacancy the archbishop and his successors should name two proper persons to the prior and convent, one of whom they should choose and present to the said vicarage. Probably because the annual value of the church was 100 marks, and the manor only 80 marks per annum.

Thus matters continued until the dissolution of the Convent of Bermondsey, at which time the great tithes as parcel of the possessions of the church were granted by the Crown, and the right of presentation reverted to the see of Canterbury, and is now a peculiar belonging to it.

As regards other advowsons, the first the convent possessed was that of the church of St. Saviour's at Bermondsey (it must be remembered that, so far, I always speak of the original St. Saviour's, not St. Mary Overie's, which now goes by the

name of St. Saviour's); this was confirmed to them by Henry I., 1127.

In 1158 William de Watteville gave them the advowson of the Rectory of Warlingham, a chapelry of Chelsham, in Surrey, which was confirmed to them by the King the year following, which in the 28th Ed. I. they obtained the bishop's, and in 8th Ed. II. the King's licence to appropriate. They continued in possession of these until the dissolution.

In 1159, 5th Henry II., the advowson of the rectory of Beddington was given to the priory by Inglegram de Furteneys and Sybil de Watteville (sister of William aforesaid and wife of Alan Pirol), which grant was confirmed to them by the King the same year, and afterwards by King Edward III.

In the 38th Henry III., anno 1246, they recovered an annual pension of 100s. payable to them out of this rectory, and also two marks sterling for tithes of lands in the said parish formerly belonging to Richard Huscarle, which was continued to them as a pension in lieu of the said tithes.

The Abbey possessed a cell at Derby.

The first abbot was John Attilburgh, made prior in 1390, and abbot in 1399. As an abbey the house continued for over two hundred years, until on 1st Jan. 1538 it voluntarily surrendered its estates, the abbot getting a pension of £333 6s. 8d. per annum (500 marks), and the six monks £38 13s. 4d. between them, and £7 6s. 8d. was distributed in other annuities. Thus ended the Abbey of St. Saviour's, Bermondsey, and we must now follow the fortunes of the building, apart from the prior and monks.

In 1541 Henry granted the site of the Abbey to Sir Robert Southwell, Master of the Rolls, at a yearly reserved rent of 10s., who at once conveyed it to Sir Thomas Pope, Kt., and Elizabeth his wife in fee, who is said to have taken down the church and its adjacent building and erected a dwelling house as mansion of the manor from the materials. This was henceforth called Bermondsey House. I doubt if Sir Thomas Pope really pulled down the whole of the buildings, except the church. It seems much more likely that he pulled down part and rebuilt with all modern improvements. The house is said to have been surrounded by a property of about twenty acres in extent.

Important transactions took place at various times at this Monastery. In 1154 King Henry II., after his first coronation, held his Court there when he treated with his nobles on the state of the kingdom.

In the reign of King Henry III., many of the nobility having taken the cross upon them, met at this house to deliberate on the order of their journey.

The Bishop of Winchester, who then lived at Winchester House, Southwark, on the river-bank near to St. Mary Overie's,

claimed an annual procuration or entertainment for one day; but in 1276 this was contested, and a compromise was made that the prior and convent, on the first coming of the Bishop of Winchester to Bermondsey after his installation, should meet him as their diocesan, in procession, and in lieu of the entertainment should pay him and his successors five marks in silver for that time at his house in Southwark, and in every succeeding year two and a half marks at Michaelmas, and, if he went beyond sea, should meet him in procession on his return.

One important connection which the Monastery had with Southwark and with present day charity must not be omitted.

In 1213, Richard, Prior of Bermondsey, with the consent of the convent, built adjoining to the walls of the Monastery an almshouse or hospital for converts and poor boys, in honour of St. Thomas of Canterbury. It was under the government of the almoner, and was exempt from episcopal jurisdiction. This was the origin of the well-known St. Thomas' Hospital now at Westminster, though no longer the hospital of St. Thomas of Canterbury. There seems to be some little doubt whether the hospital we know as St. Thomas' was thus founded, or whether it was founded by the Priory of St. Mary Overie; but I think that at all events the credit rests with Bermondsey, though it is *possible* St. Mary Overie had a share in the present foundation, as in 1212 the monks of St. Mary Overie erected a temporary building after their monastery was burnt down, which was subsequently used as a "hospitium"; and in the reign of Henry III., Peter des Roches, Bishop of Winchester, incorporated it with the almonry founded by Prior Richard of Bermondsey, and called it "The Spital of St. Thomas the Martyr of Canterbury." After the dissolution, Henry VIII. conveyed the hospital to the Corporation of the City of London, who called it St. Saviour's Hospital; the name did not, however, catch on, and eventually a compromise was entered into, and the name of St. Thomas retained—but as St. Thomas the Apostle, and not that of the "holy blisful martir"—thus meeting the views of the Protestant portion of the community.

But I must leave the history of the Abbey, and consider it in its more material aspects.

There is no known engraving which accurately represents the Abbey or Abbey Church. I am informed by Mr. Frowde, the courteous chief librarian of Bermondsey Free Library, who has assisted me in gaining sundry particulars of the Abbey, that the plan of the buildings published in many books on Bermondsey is imaginary. We know nothing of the architecture of the conventual church, which probably contained all styles from Norman to Perpendicular. In the excavations for the foundations of the South Eastern Railway Model Dwellings certain stones were discovered, which, before being carted away—no one having sufficient interest

to preserve them—were happily photographed by Mr. C. M. Smith. One portion of a column of Purbeck marble is still in a house in Grange Walk, if anyone wishes to secure it; and I believe, though I have not seen them, there are some Saxon ornaments in the great wall near the churchyard.

A general view of the remains in 1805, taken from the steeple of St. Mary Magdalen, gives us some little idea of the style of Bermondsey House, which no doubt incorporated certain of the old monastic buildings.

The only portion now standing is Nos. 6 and 7, Grange Walk, in the front wall of which are the staples on which the east gate of the Abbey hung; the wall facing the street is very thick—some three or four feet—and no doubt formed part of a very substantial gateway.

There was until a few weeks ago a mediæval wall dividing the S.E.R. Model Dwellings from No. 66, Abbey Street. I went to photograph it, and found the workmen were just building a new wall, to make the yard look nice I suppose, and they had cut away a portion of the old brickwork so as to reface it. I did my best to photograph it, and you can see in the photograph by the difference in the size of the bricks the junction of old and new work. The face is now put on, and until No. 66 is in its turn pulled down no more of the old wall can be seen.

Engravings remain in Wilkinson's 'Londina' of the (1) east view of the gateway; (2) the interior of a room adjoining those under the hall of Bermondsey Abbey (House ?); (3) the inside and outside of the hall; (4) the inside of one of the rooms under the hall. Wilkinson thinks that the view of the inside and outside of the hall is probably of the hall or refectory of the Monastery, as its appearance seems older than Sir Thomas Pope's time.

According to Walford's 'Old and New London,' the east gate of the monastery was removed early last century (it really was taken down in 1805), and nearly all that was left of the old buildings shared the same fate, and Abbey Street was made upon the site.

The Neckinger Road marks the ancient watercourse formerly navigable as far as the precincts of the Abbey; whilst Walford says that the church of St. Mary Magdalen stands on the site of the ancient conventual church. This I think is incorrect.

There is no doubt that in 1810 the present churchyard was enlarged by annexing to it a strip of land sixteen feet in width that formed a part of the conventual burial ground. There is in the church part of a stone coffin which was then found about six feet from the surface, in front of the 'White Bear' tavern. The lid possesses no ornament, but has a raised beading passing down the centre. This, according to Mr. E. B. Price,* is a rough

* Brit. Arch. Journal, vol. ii. p. 170.

sandstone, but I make it to be carboniferous limestone; at all events I noticed on it a trilobite and plenty of encrinite stems, and this leads me to what originally attracted my attention to Bermondsey Abbey—the discovery of chalk coffins or graves. I find that the above writer records that about forty feet from the stone coffin was discovered a massive wall, which appears to have been the south wall of the Abbey church. Eighteen inches from the south side of this wall and at a depth of 7 ft. 9 in. was found a grave formed of carefully hewn blocks of chalk. The flooring of the grave was concrete, formed of finely screened gravel mixed with lime three inches thick; the grave was twelve inches in depth, and contained a human skeleton completely embedded in a mass of brown loam. There was no lid or other covering. Mr. Price records chalk graves of the Anglo-Saxons found by Sir Christopher Wren in the foundations of St. Paul's Cathedral. I think the Anglo-Saxon date may be incorrect.

In the foundations of the model dwellings mentioned above Messrs. Smith, the contractors, found four chalk graves containing human remains, showing that the conventual burial ground extended to the other side of Abbey Street.

These were somewhat similar to the grave recorded by Mr. Price; but, instead of being plain at the head, as shown in Mr. Price's illustration, these were built round for the head in the same shape as the stone coffin now in St. Mary Magdalen's.

The graves recently found were at a depth of about six feet, and the bodies had been buried in sand. There were no lids, or any stones under the skeletons. The bodies had—as you see from the photographs—been laid on their backs, and simply surrounded and protected by chalk blocks. The skeletons were re-buried at Nunhead Cemetery by the Bermondsey County Council; but Mr. Smith has preserved the blocks of chalk, and I hope that the Scientific Committee of the Croydon Council—the Roads Committee—will secure them for the Borough Museum at Grange Wood, where months ago it was reported they were to be placed.

Mr. C. H. Read, F.S.A., has placed the date of these graves as thirteenth century, which is confirmed by the jug exhibited on the table, which Mr. C. M. Smith informs me was found in one of the graves, which I am advised at the British Museum is of late thirteenth century work. I think we may therefore fairly conclude the burials to be those of members of the convent in the thirteenth century.

In the progress of the excavations the other pottery upon the table was found.

The small pot has been suggested to be a modern water-pot for a bird-cage, the hole in the handle being for the insertion of a piece of wood to keep it in its place.

The small cup is, I think, an apothecary's jar of about the seventeenth century.

I must not conclude without some reference to the famous Rood of Bermondsey. This is said to have been found upon the banks of the Thames, and caused the Abbey to be one of the famous places near London for pilgrimages.

Prayers said before the shrine were considered very precious. In 1465 John Paston wrote to his mother: "Go visit the Rood of North door & St. Saviour in Bermondsey among while ye abide in London, & let my sister Margary go with you to pray to them that she may have a good husband or she come home again." I don't know if the prayer was answered.

It is recorded that on the demolition of the Abbey church Sir Thomas Pope caused the Rood of Grace to be removed and "set up on the common in Horseleydown," at the end of the present Crucifix Lane.

We read that in 1538 (?1559), in the mayoralty of Sir Richard Graham, as follows: "M. Graham, may^r. On Saynt Matthies day thapostull the xxiiii^th day of February Sonday did the Bishop of Rochester preche at Polls Cross & had standyng afore hym all his sermon tyme the pictur of the Roode of Grace in Kent & was gretely sought with pilgrims and when he had made an ende of his sermon the pictur was torn all to peces, then was the pictor of Saynte Saviour that had stand in Barmsey Abbey many yeres in Southwarke takyn doon." We must remember that the word "picture" at the above date was used for statues and carvings, as well as paintings.

So few remains of the Abbey have been preserved, that I must not conclude without alluding to a beautiful piece of plate, now in St. Mary Magdalen's, which I cannot better do than by reading the description given by Rev. T. S. Cooper in the "Church Plate of Surrey" ('Surrey Arch. Journ.').

"Not earlier than the fifteenth century, and not very early in that.

"15 Cent. Plate. — This remarkable and most interesting piece of plate is said to have belonged originally to Bermondsey Abbey, and to have come into the possession of the parish church at the dissolution of that monastery in 1537. That it once belonged to the Abbey seems very probable, but, since no mention of it occurs in Ed. VI.^th's 'Inventory of Church Goods,' it can hardly have come into possession of the parish so early as is supposed. On the reverse side of the boss is an indented lion's head, uncrowned, which I had thought from its resemblance to the head of the lions or leopards of the royal arms as used by Henry III. and onwards might be a Goldsmiths' Hall mark, but which Mr. Cripps thinks 'is much more like an ownership mark'; in this case it would be a stamp used in the Abbey.

"In the centre of this beautiful plate is represented a lady about to place a helmet on the head of a kneeling knight. To

the right may be seen his charger's head. The background is filled in with dome-topped gateway and fortified walls, and two trees, one a palm, the other trefoil-headed. The whole is no doubt from some current picture, probably of a legend of the Crusades: the costumes therefore would be no safe guide to the date of the plate. Round the boss is a band in silver gilt in vine foliage and grapes of early design; and on the rim spirally twisted lobes alternately concave and convex, with foliage ornament in the spandrils. The marks of the compasses inside the lobes are very distinct." *

In the garden of the vicarage of St. Mary Magdalen's is the jamb of one of the fireplaces from Bermondsey House.

One curious relic has recently been found on the site of the Abbey—a small box made of thin pewter, about 7 in. long by $1\frac{1}{2}$ in. deep by about $2\frac{1}{2}$ in. wide at one end and 2 in. at the other (I speak from memory), somewhat of the shape of a coffin. On the inside of the lid, which apparently had been soldered on, are some ruled lines of dots forming a chess-board pattern in squares of about $\frac{1}{2}$ in. There are also one or two letters stamped on the metal. The ruling appears to have been upon the metal originally, and has no connection with the object of the case itself, the metal having simply been cut from a ruled sheet when required for making the case or casket. The British Museum authorities I understand cannot identify the use of the case. I suggest it was a reliquary to contain some precious object.

I hope I have not tired you with this description of one of our famous Abbeys. To walk through Bermondsey now and to try to picture what it was a hundred years ago, when the fields were still open; to go back further and try to imagine it in the early part of the sixteenth century, when the Abbey was in its glory; when the Monastery of St. Mary Overie existed in Southwark, when the great houses of Winchester and Rochester stood in the Borough, and the famous inns down the High Street were full of guests; or to think of it still earlier, when the Monastery of Bermondsey stood isolated in green fields surrounded with streams in the fourteenth century, and the 'Tabard' was cared for by that right merry man the Hoste, who with the Merchant and the Cook, the Wife of Bath and the Monk, with the Somnour and the Miller and the rest of the jovial crew, a rollicking party, tempered only by the gentle presence of the Prioresse and the Clerk of Oxenford and the poore Parsoun of a towne, went down the Kent Road past St. Thomas a Waterings, leaving St. Saviour's of Bermondsey on their left—is a pleasant occupation, and one which may afford some of us, at all events, a pleasant relief to necessary business walks and occupations.

* 'The Church Plate of Surrey,' Rev. T. S. Cooper, M.A., F.S.A.

17.—Economy of Growing Canadian Poplars upon Waste Lands for the Manufacture of Paper.

By William F. Stanley, F.G.S.

(Read December 20th, 1904.)

From the low profits upon farming, in competition with imported produce, many low-lying lands are found not worth cultivation. These lands are commonly in the market, offered to be sold at a low price. My object in the present paper is to bring before the notice of this section the commercial value of such lands for the growth of poplar-trees, which would be available for the manufacture of paper, if works were established near where the poplars were grown.

There is one condition necessary for the success of paper-making, which is, there must be a clear stream of running water for the necessary water supply. In some cases, where there is a good fall in the stream, this would also be available for supplying the whole or part of the power required in the manufacture.

As regards the growth of poplar-trees, the experience upon which this paper is founded are my own observations during twenty-three years.

In 1879 I purchased six acres of poor clay-land at a low price, which had formerly been a brickfield. By filling the pits I made the land undulating, and built my house upon it. As the part of the plot, where there was original soil, was bounded by buildings on two sides, I planted a band of quick-growing poplars (*Populus Ontariensis*), to the extent of about two acres, to hide the buildings. I was afterwards surprised at the rapid growth of the trees. During a short stay in Belgium I took great interest in the manufacture of excellent paper from the same kind of poplar, and afterwards took particular interest in the growth of the poplars I had planted, to test as far as possible the commercial possibilities of growing poplars for paper-making in this country.

To make this proposition clear, I think it would be well to give my idea of the success of a commercial scheme with the above premises, founded upon my own data; for this I propose, as a speculation, that about a thousand acres of poor clay-land should be acquired, having a clear stream running through it, with mill-power, if possible. Such land, I have been told, has been sold for seven pounds an acre.

I would suggest forming a syndicate, engaging a subscribed

capital of £50,000 to provide outlay upon the following conditions:—

A First Call of £22,000.

	£
To be invested in 1000 acres of suitable clay-land, to cost within £10 an acre, say	10,000
Provide poplars for planting at four feet apart, 2500 per acre, at 35s. per 1000. (The market price according to printed catalogue)	4,500
Labour, ploughing the land once, and planting, at 30s. per acre	1,500
Cost of administration, six years, allowing one year of this time to get the plantation in working order	1,000
Interest, ten per cent. on capital, five years (less bank interest on deposit account)	5,000
	£22,000

The administration is put at a low price, in that there would be very small cost after the planting was complete, for which £4,500 would be sufficient. Practically the land might be then left to itself, unless it could be let as a game preserve or otherwise, to pay for the superintendence.

After the fifth year a paper-mill would have to be built, which would cost £25,000 with machinery fitted; but it would be well to make a second call of capital, £28,000, making the total £50,000.

In the sixth year, or the fifth year after the 2,500,000 poplars were planted on the 1000 acres of land, these trees would have attained the average growth of 8 ft. in height by 3 in. diameter, and weigh about 9 lb. each = 10,000 tons. If we subtract about one-third of this for one-third of the trees being felled for paper-making, say 3,000 tons,—this would provide material to produce about 1000 tons of finished paper, placing the value of this at three-halfpence per pound, £14,000.

If we now set down £7,000, or half the above, for cost of manufacture with the material supplied, we have a clear profit of £7,000, or over twelve per cent. interest on the investment for the first year of manufacture.

When the trees are thinned out they grow much more rapidly, so that after the fifth year they increase nearly an inch per year in diameter. If we continue to take one-third of the trees standing every year, I find this would establish about a uniform amount of timber per year to be used in the manufacture of the paper. In twenty-two years there would be left only 3333 trees standing, or about supply for four years, of the trees originally planted.

Taking my own trees, after twenty-one years' planting, that were left standing about six to the acre, or about 30 ft. apart, these measured 18 to 20 in. diameter for about 10 ft. of butt. weighing about 12 cwt. each, or equal to 3600 tons. This, if taken for 1000 acres, would be enough, allowing for continuous growth for four years' supply, in the interval of which other trees would be coming on, or other timber, oak or ash, might have been planted advantageously for profit, and new land acquired to continue the supply of poplars for the mill.

If the land were resold it would fetch about cost value, to buy new land. With a moderate amount of water-power, if this power were not sufficient to work the mill during the summer-time, the top wood of the trees would supply supplementary power if this were burnt in a suitable wood-burning boiler, such as are commonly in use in the United States of America. If part of the land were very wet, willow might be grown, forming an excellent material for tough paper. There is no doubt other commercial products would be derived from the same lands upon which the poplars were grown.

18.—Notes on a Section of Woolwich and Reading Beds, New Cross Gate.

By N. F. Robarts, F.G.S.

(Read December 20th, 1904.)

The erection of buildings at New Cross Gate by the London County Council, in connection with their tramway system, necessitated considerable excavations, in the spring of this year, in the hill to the south of New Cross Road, which exposed to view a section of the Lower London Tertiaries which I think should be recorded, to supplement particulars which have already been given of the neighbouring well-known section in the New Cross cutting of the London, Brighton and South Coast Railway.

Owing to the kind permission by Mr. E. Riley, Superintending Architect of the London County Council, of free access to the works, I was enabled to make several visits whilst they were in progress and examine the section in detail.

The ground occupied by the tramway buildings is about 600 yards north-west of the northern end of the section in the L.B. & S.C.R.'s New Cross cutting described in the paper I laid before the Society on 19th April, 1904.

The ground south of the New Cross Road dips from south to north, falling about 22 ft. 6 in. in 580 ft., the distance from the frontage to the retaining wall in the rear of the premises.

The ground required to be levelled, which led to a section being made above the level of New Cross Road of about 22 ft. 6 in. in depth, whilst the foundations showed about 6 ft. more, and bore-holes a still greater depth.

The beds seemed to change their character as they went north of the railway cutting, being less clayey and more sandy, whilst the dip being south-easterly the lower beds of the series are brought to the surface at New Cross Gate.

The excavation being rectangular enabled the south-easterly dip of the beds to be easily traced.

The following section fairly represents the southern side of the excavation :—

		FT.	IN.
A.	Soil	0	6
B.	Orange sand	2	0
	Clay with sandy partings	10	0
	Yellow sand	2	0
	Sandy clay	1	6
	Orange sand	2	0

		FT.	IN.
C.	Shell bed (*Cyrena*)	1	6
D.	Oyster bed	1	6
E.	Shell bed (*Cyrena*)	1	0
F.	Mottled clay	1	3
	Yellow clay	1	9
G.	Pebbles	2	0
	Sand		

The fossils in this section were almost all contained in the three shell beds overlying the mottled clay, but there were traces of leaf-remains in the clays of B.

Mr. E. T. Newton, F.R.S., has kindly examined the fossils for me, and determined them as follows :—

B.—Clay.....	*Cyrena*, sp. *Melania*.
C.—Shell bed. ...	*Cyrena cuneiformis*. *Cerithium*. *Melania*.
D.—Oyster bed.	I preserved no specimens from this bed, which was a hard shelly rock, composed almost entirely of *Ostrea tenera*.
F.—Shell bed. ...	*Ostrea bellovacina* ? *Cerithium funatum*. *Cyrena cuneiformis*.

Comparing this section with that at Loampit Hill,* the upper beds appear to almost reach the lowest beds exposed in the L. B. & S. C. R.'s New Cross cutting, so that the sections at that place and this give us practically a complete section from the lower beds of the London Clay to the Thanet Sand.

I am favoured by Mr. Riley with the following sections from bore-holes made at the works :—

40·02 ft. above O. D.	FT.	IN.
Mould	1	11
Sandy clay	5	9
Blue clay and shell	4	0
Mottled clay	5	0
Clay and ballast	1	6
Gravel	5	0
Green sand and clay ...	2	0
Pebbles and green sand	4	6
Green sand	5	0
Blue sandy clay	3	0
Grey sand	2	0
FT.	39	8

38·40 ft. above O. D.	FT.	IN.
Made ground	5	0
Blue clay and shell	4	0
Mottled clay	3	6
Gravel	8	6
Pebbles & green sandy clay	10	0
Grey sand	9	0
FT.	40	0

* 'Memoirs of the Geological Survey' (1872), vol. iv. pt. i. p. 127.

The pebble-bed contained some pebbles of very considerable size. The two shell beds, consisting chiefly of *Cyrena*, were both a hard rock.

It would be desirable to watch for sections in the neighbourhood which may show if any beds intervene between the lowest in the railway cutting and the highest in the present section.

I wish to record my thanks to Mr. E. Riley, for the particulars of the sections in the bore-holes and permission to visit the works; and to Mr. E. T. Newton, F.R.S., for kindly naming the fossils.

19.—Report of the Meteorological Committee, 1904.

Prepared by the Hon. Sec., Francis Campbell-Bayard, F.R. Met. Soc.

(Read February 21st, 1905).

The same arrangements under which the daily rainfall of the district round Croydon has been observed and tabulated have been continued throughout the year 1904. The number of stations in the printed list is 97, and there are four additional stations—*viz.* Camberwell Cemetery, Forest Hill; Camberwell Green; Camberwell Town Hall; and Leyton Square, Camberwell—the records of which are complete, with the exception of a very few days which have been interpolated, for the whole year, and which will be found at the end of this Report. These 101 stations are under the superintendence of 77 observers. Two changes have occurred: Mr. Grant removed from Harp's Oak Cottage, Merstham, to Hale Edge, South Nutfield, at the end of March; and Mr. Jordan ceased observing at Woodfield Avenue, Streatham, at the same time. It is a pleasure for the Committee to be able to inform the members that a new station at Streatham has been established at "The Pumping Station" by Mr. J. W. Restler, the engineer of the Southwark and Vauxhall District of the Metropolitan Water Board, to whom the Committee are greatly indebted for some valuable records. The observations at Farningham Hill have been temporarily interrupted, owing to illness in Mr. Waring's family. Mr. J. E. Clark is leaving Ashburton Road, Croydon, and has already established a new station at Purley; and Mr. Spencer C. Russell has established a new station at Epsom, a place not represented in the printed return; and Mr. W. Oxtoby has also established a new station at Grove Vale, East Dulwich, a place not hitherto represented. These additional returns will involve a slight extra cost in printing for the Society, which it is hoped will not be objected to, seeing that there is no similar publication in the United Kingdom or, I believe, elsewhere in the world.

Appendix I. to this Report contains a list of the observers, with particulars relating to the stations and gauges, and also the monthly tables of daily rainfall, of which a sufficient number have from month to month been pulled for the use of the Society. These printed tables contain the records of all observers, with the exceptions already mentioned, reporting to the Committee.

Appendix II. contains a record of all falls of rain of 1·00 in. and upwards, extracted from the monthly tables in Appendix I.

The rainfall of the district for the year is very different to that

TABLE I.

THE RAINFALL OF 1904 AS COMPARED WITH THE AVERAGE OF THE TEN YEARS 1891–1900.

STATIONS	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
Knockholt (F. G.)	+2·86	+1·81	—0·70	—0·11	+0·84	—1·20	—0·77	—0·82	+0·01	—1·13	—1·49	+0·91	+0·21
Dorking	+2·67	+1·89	—0·43	+0·18	+0·94	—0·84	—0·93	—0·78	—0·46	—1·43	—1·97	—0·35	—1·51
Caterham	+2·79	+1·52	—0·13	+0·06	+1·15	—1·14	—1·39	—0·87	—0·90	—1·34	—1·83	—0·42	—2·50
Banstead	+2·91	+1·76	—0·51	+0·15	+0·92	—1·18	—0·40	—0·92	—0·84	—1·36	—1·66	—0·23	—1·36
Addington Hills	+2·51	+1·67	—0·25	—0·06	+0·55	—1·18	—0·74	—0·76	—0·80	—1·34	—1·37	+0·05	—1·72
Nutfield (O. G.)	+2·03	+0·91	—0·15	+0·08	+1·13	—0·91	—1·44	—0·92	—0·58	—0·75	—1·64	+0·17	—2·07
Reigate Hill	+1·51	+1·18	—0·36	+0·17	+0·91	—0·84	—1·61	—0·77	—0·89	—1·14	—1·85	—0·17	—3·86
Sevenoaks	+1·57	+1·46	—0·67	—0·40	+0·76	—1·34	—1·10	—0·48	—0·57	—1·64	—1·71	—0·12	—4·24
Forest Hill (Waterworks)	+1·01	+0·90	—0·02	+0·02	+0·62	—0·81	—0·55	—0·69	—0·45	—1·29	—0·71	—0·02	—1·99
Addington (Pumping St.)	+2·92	+1·71	—0·14	—0·12	+0·45	—1·31	—0·82	—0·71	—0·68	—1·38	—1·69	—0·10	—1·87
Abinger (The Hall).....	+2·76	+1·69	—0·54	—0·12	+1·20	—1·32	—1·10	—0·76	—0·57	—1·40	—2·16	—0·03	—2·35
Redhill*	+0·56	+1·64	—0·10	+0·35	+1·20	—0·64	—1·36	—1·11	—0·78	—1·26	—1·94	—0·13	—3·57
Bickley	+1·48	+1·43	—0·12	—0·29	+0·76	—1·12	—0·43	—0·73	—0·62	—1·33	—1·29	+0·02	—2·24
D'Abernon Chase	+1·69	+1·58	—0·26	—0·04	+1·11	—0·18	—0·54	—0·78	—0·48	—1·36	—1·29	+0·04	—0·51
Addington (Park Farm)	+3·05	+1·71	—0·17	—0·10	+0·55	—1·12	—0·79	—0·66	—0·76	—1·33	—1·54	—0·16	—1·32
Leatherhead.....	+2·64	+1·45	+0·12	+0·09	+0·89	—0·54	—1·13	—0·38	—0·57	—1·32	—1·51	—0·12	—0·38
Sutton (Waterworks)*...	+1·73	+1·41	—0·25	+0·16	+0·96	—0·86	—0·40	—0·57	—0·84	—1·37	—1·42	—0·29	—1·74
Forest Hill (Newfield H.)	+0·97	+0·92	—0·24	—0·09	+0·58	—0·80	—0·73	—0·82	—0·50	—1·38	—0·83	+0·28	—2·64
Orpington.....	+1·97	+1·81	—0·24	—0·28	+0·50	—1·00	—0·82	—0·55	—0·63	—1·28	—1·54	+0·13	—1·93
W. Norwood.....	+0·96	+0·72	—0·29	—0·04	+0·59	—0·93	—0·75	—0·70	—0·52	—1·36	—0·96	—0·13	—3·41
Oxshott.....	+1·70	+1·31	—0·20	+0·07	+1·16	—0·46	—0·35	—0·76	—0·53	—1·34	—1·10	+0·13	—0·37
Beckenham*.....	+1·54	+1·57	—0·03	—0·15	+0·80	—0·79	—0·60	—0·65	—0·61	—1·21	—1·16	+0·26	—1·03

THE RAINFALL OF 1904 AS COMPARED WITH THE AVERAGE OF THE TEN YEARS 1891–1900 (*contd.*).

STATIONS	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
Nunhead	+0·31	+0·38	—0·02	—0·20	+0·46	—0·62	+0·05	—1·00	—0·61	—1·24	—0·74	+0·17	—3·06
Sidcup	+1·04	+1·35	—0·14	—0·28	+0·82	—1·22	+0·01	—0·78	—0·56	—1·48	—0·95	+0·22	—1·97
Croydon (Duppas House)	+1·81	+1·27	—0·17	+0·08	+0·97	—0·94	—0·87	—0·69	—0·76	—1·37	—1·41	—0·06	—2·14
Wimbledon Hill*.....	+1·20	+0·83	—0·21	—0·09	+0·94	—0·75	—0·65	—0·55	—0·86	—1·58	—1·00	—0·04	—2·76
Greenwich	+0·91	+1·00	—0·13	—0·20	+0·66	—0·88	+0·18	—0·76	—0·56	—1·25	—0·61	+0·09	—1·55
Croydon (Waddon N. R.)	+1·88	+1·15	—0·04	+0·13	+1·03	—0·92	—0·90	—0·63	—0·73	—1·15	—1·22	+0·05	—1·35
Wallington	+1·95	+1·32	—0·18	+0·21	+0·95	—0·64	—0·48	—0·86	—0·55	—1·34	—1·31	—0·20	—1·13
Croydon (Brimstone Bn.)	+1·76	+1·14	—0·09	—0·17	+0·78	—0·82	—0·95	—0·64	—0·46	—1·21	—1·23	—0·09	—1·98
South Norwood*	+1·53	+1·50	—0·01	+0·06	+1·01	—0·83	—0·73	—0·51	—0·61	—1·11	—1·07	+0·43	—0·34
Beddington	+2·04	+1·27	—0·19	+0·18	+0·98	—0·83	—0·68	—0·72	—0·73	—1·45	—1·43	—0·25	—1·81
Richmond*	+0·76	+0·60	—0·17	—0·40	+1·37	—0·76	—0·04	—0·65	—0·46	—1·56	—0·87	—0·37	—2·55
Brixton.....	+0·67	+0·97	—0·07	+0·21	+0·79	—0·83	—0·39	—0·82	—0·79	—1·30	—0·96	—0·11	—2·63
Wimbledon (Sew. Wks.)	+0·61	+0·69	—0·44	—0·09	+0·55	—0·06	—0·63	—0·60	—0·87	—1·31	—0·89	—0·13	—3·17
Raynes Park	+0·85	+0·69	—0·40	—0·23	+0·70	—1·01	—0·65	—0·84	—1·05	—1·65	—1·25	—0·44	—5·28
New Malden.....	+0·63	+0·35	—0·29	—0·35	+0·73	—0·88	—0·68	—0·48	—1·07	—1·28	—0·82	+0·12	—4·02
Esher	+1·37	+1·18	+0·02	—0·22	+0·79	—1·36	—0·17	—0·84	—0·63	—1·28	—0·76	—0·06	—1·96
Kingston (Sew. Works)	+1·10	+1·01	—0·13	—0·33	+0·96	—0·88	—0·52	—0·84	—0·77	—1·47	—1·04	—0·01	—2·92
Surbiton	+1·07	+0·90	—0·06	—0·31	+0·90	—1·05	—0·34	—0·67	—0·83	—1·36	—0·88	+0·29	—2·34
Wilmington	+1·21	+1·31	+0·18	—0·22	+0·61	—1·01	—0·52	—0·55	—0·66	—0·75	—0·84	+0·26	—0·98
Battersea (Waterworks)	+0·16	+0·73	—0·12	—0·17	+0·35	—0·52	—0·46	—0·56	—1·05	—1·36	—0·51	—0·08	—3·59
Deptford	+0·74	+0·90	—0·07	—0·11	+0·62	—0·64	+0·01	—0·63	—0·55	—1·27	—0·41	+0·03	—1·38

of the previous year, 1903, in which we had an excess of rain varying from 20·74 in. at Leatherhead to 9·82 in. at New Malden. In this year, by way of contrast, we have a deficiency at every station, with the exception of Knockholt, which has an excess of 0·21 in., which varies from 5·28 in. at Raynes Park to 0·34 in. at South Norwood.

With respect to this year's rainfall, I have prepared Table I., which consists of 43 stations from amongst the 48 whose averages for the ten years 1891–1900 are given in the Meteorological Sub-Committee's Report for 1900, the stations for which the individual records are not the same being marked with a *. On looking at this table and comparing it with a similar table in the Report for 1903, we note the very large excess of rain in January and February, which for January varied from 3·05 in. at Addington Park Farm to 0·16 in. at Battersea Waterworks, and for February from 1·89 in. at Dorking to 0·35 in. at New Malden, as against in January, 1903, 0·86 in. at Addington Park Farm to 0·00 in. at Caterham; and in February, 1903, of +0·29 in. at Knockholt to −0·68 in. at Raynes Park. In March, with the exception of 3 stations at which there were small excesses—*viz.* Leatherhead, Esher, and Wilmington—there was a deficiency which varied from −0·70 in. at Knockholt to −0·01 in. at South Norwood. In April the deficiency was much smaller than in March, and there were 16 stations showing an excess. May had an excess at every station which varied from 1·37 in. at Richmond to 0·35 in. at Battersea Waterworks. June has a deficiency at every station, varying from 1·36 in. at Esher to 0·46 in. at Oxshott. July also has a deficiency at every station except four —*viz.* Nunhead, Sidcup, Greenwich, and Deptford, which have very small excesses—varying from 1·61 in. at Reigate Hill to 0·04 in. at Richmond. August, September—with the single exception of Knockholt, which has the slight excess of 0·01 in.—October and November have considerable deficiencies, especially October, where the deficiency value is over an inch at every station, with the single exception of Wilmington, where it is 0·75 in. December is a month of somewhat variable conditions, 18 stations having an excess; the values range from +0·91 in. at Knockholt to −0·44 in. at Raynes Park.

That the year has been a dry one as a whole has been shown by Table I.; but that there should be a very large number of rainy days—in fact, nearly as many as the extremely wet year of 1903—will probably come as a great surprise. For this purpose Tables II., III., and IV.—giving the number of rainy days at Wallington, Greenwich, and Reigate Hill, as compared with the average 1891–1900—have been constructed.

TABLE II.

NUMBER OF RAINY DAYS AT WALLINGTON, SURREY.

Average of 10 years	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year.
1891–1900	18	14	13	11	11	11	10	15	12	16	16	17	164
1903	17	12	19	12	14	13	14	19	15	25	20	13	193
1904	24	21	17	13	18	8	10	9	15	17	17	21	190

TABLE III.

NUMBER OF RAINY DAYS AT GREENWICH OBSERVATORY, KENT.

Average of 10 years	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year.
1891–1900	16	12	14	11	12	12	12	15	12	16	15	16	163
1903	16	11	18	12	16	11	13	18	16	27	15	11	184
1904	24	20	15	12	18	8	11	10	13	17	11	21	180

TABLE IV.

NUMBER OF RAINY DAYS AT REIGATE HILL, SURREY.

Average of 10 years	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year.
1891–1900	18	13	14	11	11	11	13	14	12	17	16	19	169
1903	22	14	21	13	13	13	15	20	17	23	15	11	197
1904	18	21	16	11	16	8	9	11	12	15	13	18	168

In considering these three tables, it will be at once seen that the Wallington and Greenwich tables are in many respects similar, whilst the Reigate Hill table is different. It is very evident that, from the number of rainy days both at Wallington and Greenwich, the relative falls must be much smaller. The only anomalous reading is that of November at Greenwich, which gives a total of no less than six days smaller than Wallington. When, however, we come to consider the Reigate Hill record, we have an entirely different state of circumstances. The yearly number of rainy days is actually one below the average, and no less than twenty-nine below 1903. It is very difficult to account for this, though possibly owing to the station being situated on the escarpment of the North Downs, though not at the highest point, the slighter rains were driven over the station, thereby causing a loss of rainy days, but not affecting the aggregate amount of fall by much. In studying the individual months, it will be noticed that both at Wallington and Greenwich there were in January and December a large number of rainy days, whilst at Reigate Hill the number was only about

the average. At all three stations February had a large number of rainy days. The other months are somewhat alike at all three stations, though the number of rainy days is on the whole smaller at Reigate Hill than at Wallington and Greenwich, except in August, when Reigate Hill had a number slightly larger than the other two stations.

The number of falls of one inch and upwards given in Appendix II. are only eight, and are relatively very small, the highest being 1·55 in. on July 25th at Greenwich. It will be noticed how small also is the area of the different falls.

TABLE V.

DURATION OF RAINFALL AT DUPPAS HOUSE, CROYDON, 1904.

Level of gauge, 162·00 O. D. Mr. Baldwin Latham, M.Inst.C.E.

1904.	Rainfall in inches.	Number of Days ·01 or more fell.	Duration of Rainfall in Hours.	Mean Duration of Rainfall in inches per hour.
January	3·63	22	122·25	·0297
February	3·05	19	71·60	·0426
March	1·52	16	46·90	·0324
April	1·26	11	26·96	·0465
May	2·44	16	61·55	·0396
June	·80	9	20·32	·0394
July	1·26	11	19·98	·0631
August	1·655	10	31·86	·0519
September	1·215	12	43·07	·0282
October	1·885	15	58·62	·0322
November	1·405	14	37·91	·0371
December	2·435	19	57·26	·0425
Total	22·555	174	598·28	·0377

Mr. Baldwin Latham has most kindly furnished me with a table (Table V.) giving the duration of rainfall at Duppas House, Croydon. If we study this very valuable table we shall note how small the rate of fall has been. The total number of hours during which rain fell is 598·28 hours, which gives the actual number of days of twenty-four hours each as 24·9 days, and the actual annual rate of fall as ·0377 in. per hour. The greatest

rate of fall took place in July, which has ·0631 in. per hour, and the next in August, which has ·0519 in. per hour; whilst the lowest rate of fall occurred in September, which has ·0282 in. per hour, and in January, which has ·0297 in. per hour. In 1902 the total number of days of twenty-four hours each was 22·0 days, and the rate of fall ·039 in. per hour; and in 1903 there were 31·5 days, with a rate of fall of ·0512 in. per hour.

In conclusion, the Committee desire to thank those, fifteen in number, who have given donations in aid of this rainfall work, which, as far as the Committee can learn, is unique; and they would like to mention that the whole of these donations is expended in the printing of the returns, no payment being made to any observer, or any member of the Committee, all of whose services are voluntary.

Camberwell Cemetery, Forest Hill, Surrey.

Observer—W. Oxtoby. Gauge (self-recording) 8 in. in diameter.

Height of gauge above ground, 2 ft. 2 in.
Height of station above sea-level, 160 ft.
Time of observation, 9 a.m.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1·77	1·58	1·10	0·73	1·88	0·79	1·30	1·02	0·75	1·33	1·35	1·68	15·28

The Green, Camberwell, Surrey.

Observer—W. Oxtoby. Gauge (self-recording) 8 in. in diameter.

Height of gauge above ground, 2 ft. 2 in.
Height of station above sea-level, 17 ft.
Time of observation, 9 a.m.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
2·07	2·09	1·45	1·03	2·02	0·86	1·74	1·18	0·96	1·34	1·50	1·86	18·10

THE TOWN HALL, CAMBERWELL, SURREY.

Observer—W. OXTOBY. Gauge (self-recording) 8 in. in diameter.

Height of gauge above ground, 49 ft.
Height of station above sea-level, 21 ft.
Time of observation, 9 a.m.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1·91	2·07	0·99	0·89	2·10	0·72	1·75	1·54	0·91	1·48	1·35	1·73	17·44

LEYTON SQUARE, CAMBERWELL, SURREY.

Observer—W. OXTOBY. Gauge (self-recording) 8 in. in diameter.

Height of gauge above ground, 2 ft. 2 in.
Height of station above sea-level, 14 ft.
Time of observation, 9 a.m.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
2·07	2·06	1·30	0·96	2·01	0·69	1·00	1·24	0·78	1·17	1·48	1·70	16·46

APPENDIX I.

CROYDON NATURAL HISTORY AND SCIENTIFIC SOCIETY

(Meteorological Committee.)

No.	Stations.	Observers.	Size of Gauge.	Height above Ground.		Height of Stat. ab. Sea-level.
			IN.	FT.	IN.	FT.
	Holmbury St. Mary (Ioldwynds)	F. Cornish	5	1	0	530
	Abinger (The Rectory).....	Miss Brodie-Hall....	5	1	0	381
	Abinger (The Hall)	The Lord Farrer	8	2	0	320
	Dorking (Denbies).....	J. Beesley	5	0	6	610
5	Redhill (Linkfield Lane)	Mrs. Stephenson	5	1	0	350
	Nutfield (The Priory, old gauge)..	J. Moffatt	8	1	2	468
	Nutfield (The Priory, new gauge)	J. Moffatt	8	1	2	331
	Buckland (Hartswood)	R. W. Clutton	5	1	0	174
	Reigate Hill (Nutwood Lodge)..	H. E. Gurney	5	1	0	440
10	Upper Gatton (The Park).....	F. Druce	5	1	0	600
	Merstham (Rockshaw Lodge)....	T. W. Hill.....	5	1	0	475
	Harp's Oak Cottage	R. C. Grant	5	1	0	454
	Chipstead (Shabden Park)	J. Crerar	5	1	0	550
	Chaldon (The Rectory)	Rev. G. E. Belcher ..	5	1	0	542
15	Caterham (Metropolitan Asylum)	P. E. Campbell, M.D.	5	1	0	610
	Westerham (Hill Estate).....	W. Morris	5	1	0	539
	Westerham (The Town)	W. Morris	5	1	0	380
	Knockholt Beeches (Field Gauge)	W. Morris	5	1	0	785
	Knockholt Beeches (Tower Gauge)	W. Morris	5	24	6	812
20	Chevening (The Park).....	C. Sutton	5	1	0	360
	Sevenoaks (St. John's Hill)	W. W. Wagstaffe	5	1	10	380
	Chelsham (Fairchildes)	A. S. Daniell	8	1	0	600
	Warlingham (Egremont).....	H. Rogers	5	1	0	614
	Kenley (Hazelea)	Mrs. Carr-Dyer	5	1	0	282
25	Kenley (Place Fell)	J. V. Brett	5	1	0	300
	Sanderstead (The Red House) ..	Capt. Carpenter, R.N.	5	1	0	320
	Burgh Heath (The Reservoir)....	Sutton Dis. Water Co.	5	1	0	580
	Hedley (The Hurst)	Mrs. Lyall	5	1	3	450
	Leatherhead (Downside).....	A. Tate	5	1	0	250
30	D'Abernon Chase	Sir W. Vincent, Bart.	5	1	0	280
	Oxshott (Beverstone)	W. H. Dines.....	5	1	0	212
	Banstead (The Hall)	Mrs. Maitland	8	1	0	488
	Sutton (Carshalton Road)	Sutton Dis. Water Co.	5	1	0	110
	Sutton (Sewage Works)	C. Chambers Smith..	8	1	0	94
35	Benhilton (Angel Hill)	J. C. M. Stanton	5	1	3	125
	Carshalton (Sewage Works)	W. W. Gale	5	1	0	118
	Wallington (Maldon Road).....	F. Campbell-Bayard	5	4	1	140
	Beddington (Riverside)	S. Rostron	5	1	0	120
	Croydon (Brimstone Barn).....	Croydon Corporation	5	1	0	130
40	Croydon (Waddon New Road)....	Croydon Corporation	5	1	0	146
	Croydon (Duppas House)	Baldwin Latham	8	1	0	158
	Croydon (Windmill Road)	A. Malden	5	1	6	174
	Croydon (Park Hill Rise)	H. F. Parsons, M.D.	5	1	0	250
	Croydon (Ashburton Road).....	J. E. Clark	5	1	0	188
45	Croydon (Avondale Road)	Dr. G. J. Hinde	5	1	0	225

No.	Stations.	Observers.	Size of Gauge.	Height above Ground.		Height of Stat'n. ab. Sea-level.
			IN.	FT.	IN.	FT.
	Addington Hills (The Reservoir)..	Croydon Corporation	8	0	9	473
	Addington (Park Farm)	W. Whalley	5	1	0	268
	Addington (Pumping Station)....	Croydon Corporation	8	1	0	331
	West Wickham (Wickham Court)	Sir H. F. Lennard, Bt.	5	1	2	300
50	Hayes (Hayes Place)	W. Beale	8	1	0	350
	Orpington (Kent Water Co.)	W. Morris	5	1	0	220
	Farningham Hill (Hill House) ..	A. J. Waring	5	3	0	300
	Southfleet (Kent Water Co.)	W. Morris	5	1	0	82
	Chislehurst (Hawkwood)	Miss Edlmann	5	1	0	300
55	Bickley (The High Field)	J. Batten	5	1	2	295
	Bromley (The Palace)	Coles Child	5	1	0	187
	Bromley Common (Elmfield)	Rev. J. P. Faunthorpe	5	0	9	240
	Beckenham (Wickham Road)..	E. Scovell.....	5	1	2	155
	Anerley (The Town Hall)	H. W. Longdin.....	8	40	0	191
60	South Norwood (Woodvale)	E. Dean	5	1	0	216
	Beddington Corner (Millgreen Rd.)	G. Miller	5	5	0	77
	Morden (Steel Hawes)	Miss R. Hames.....	5	5	2	100
	Wimbledon (Sewage Works)	C. H. Cooper	5	1	0	58
	Wimbledon (The Downs)	Francis Fox	5	1	0	162
65	Wimbledon (The Windmill)	Jesse Reeves.....	5	1	0	172
	Raynes Park (Pumping Station)..	C. H. Cooper	5	1	0	47
	New Malden (Sewage Works)....	T. V. H. Davison....	5	1	0	45
	Worcester Park (Manor Lodge)..	F. D. Outram	5	1	9	120
	Esher (Sewage Works).....	A. J. Henderson	5	1	0	40
70	West Molesey (Chelsea Water Co.)	H. Wrinch.....	5	1	0	32
	Surbiton (Chelsea Water Co.)....	H. Wrinch.....	5	0	6	25
	Kingston (Sewage Works)	T. Stevens.....	5	1	0	25
	Kingston (County Hall)	E. Underwood	5	0	9	31
	Richmond (The Terrace)	J. H. Brierley	8	1	6	109
75	Putney Heath (The Reservoirs)..	H. Wrinch.....	5	1	0	180
	Wandsworth Com. (Patten Road)	F. J. Brodie	5	1	0	100
	Streatham (Woodfield Avenue)...	F. Jordan	5	1	0	120
	West Norwood (Thornlaw Road)..	W. Marriott.....	5	1	0	220
	Up. Norwood (Dulwich-wood Park)	T. P. Caldicott	5	1	2	276
80	Up. Norwood (Fox Hill Gardens)	W. H. R. Ryves	5	0	9	300
	Forest Hill (Dartmouth Road) ...	L. W. F. Behrens ..	5	1	0	220
	Forest Hill (S. & V. Water Co.)..	J. W. Restler	5	1	0	344
	Sidcup (Hatherley Road)	Lionel Burrell, M.D.	5	1	2	160
	Wilmington (Kent Water Co.)....	W. Morris	5	1	0	25
85	Dartford (West Hill House)	Lieut-Col. C. N. Kidd	5	1	3	100
	Greenhithe (H.M.S. Worcester)..	Cap. D. Wilson-Barker	5	5	0	30
	Eltham (High Street)	W. Morris	5	1	0	245
	Nunhead (S. & V. Water Co.)....	J. W. Restler	5	4	0	176
	Brockwell Park	Lond. County Council	8	1	0	140
90	Brixton (Acre Lane)	F. Gaster	8	1	0	77
	Clapham Park (New Park Road)..	D. W. Horner	5	1	3	128
	Battersea Park	Lond. County Council	5	9	6	12
	Battersea (S. & V. Water Co.) ...	J. W. Restler	5	3	0	21
	Telegraph Hill	Lond. County Council	5	8	6	135
95	Greenwich (Royal Observatory)..	Astronomer Royal ..	8	0	5	155
	Deptford (Kent Water Co.)	W. Morris	5	1	0	20
	Southwark Park	Lond. County Council	5	10	0	9

Note.—The observations are taken at 9 a.m., except at Kingston (County Hall) (7.30 a.m.), Reigate Hill, Croydon (Ashburton Road), Addington (Park Farm), Greenhithe, and Brixton (8 a.m.), and Sevenoaks, Battersea Park, and Southwark Park (10 a.m.).

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	Reigate Hill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (lower ga.)	Cheveningg Park	Sevenoaks	Chelsham	Warling-ham	Kenley (Hazelea)	Kenley (Place Fell)	Sander-stead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	..	..	..	..	.03	.11	.01	.03	.03	.09	.09	.03	.01	.01	.07	.04	.03	.02	.03	..	.11	.08	.10	.0
2	.02	.08	..	.06	..	.04	.05	.11	..	.06	.02	.09	.09	.05	.09	.10	.06	.19	.16	.19	.19	..	.14	.16	.14	.0
3	.10	.10	..	.10	..	.13	.15	.15	.15	.17	.16	.20	.18	.15	.13	.14	.06	.19	.16	.19	.19	..	.14	.16	.14	.1
4	.19	.23	..	.32	..	.12	.18	.17	.16	.17	.16	.16	.16	.17	.19	.13	.18	.17	.11	.17	.12	..	.18	.14	.16	.1
5	..	..	..	..	..	.01	.01	..	..	.01	..	.01	..	..	.01	..	..	..	..	..	.01	..	..	.01	.01	.0
6	.02	..	..	..	..	..	..	..	..	..	..	..	.01	..	.01	..	..	..	..	..	..	..	..	..	..	..
7	.11	.08	..	.08	..	.03	.08	.06	.07	.11	.08	.09	.09	.09	.10	.11	.07	.14	.06	.11	.07	..	.13	.09	.10	.0
8	.12	.10	..	.08	..	.18	.20	.14	.12	.10	.09	.08	.08	.07	.07	.10	.09	.07	.06	.09	.13	..	.07	.05	.04	.0
9	.13	.10	..	.07	..	.07	.07	.08	.07	.06	.05	.06	.09	.07	.07	.13	.08	.10	.06	.12	.06	..	.08	.05	.04	.0
10	.20	.22	..	.25	..	.19	.21	.28	.19	.20	.21	.20	.21	.22	.25	.28	.23	.28	.20	.28	.23	..	.28	.25	.24	.2
11	.13	.10	..	.13	..	.03	.06	.04	.09	.09	.07	.08	.07	.08	.06	.07	.05	.07	.04	.07	.04	..	.07	.05	.04	.0
12	.31	.30	..	.26	..	.26	.29	.32	.21	.31	.29	.32	.25	.36	.33	.39	.50	.36	.17	.31	.38	..	.35	.27	.06	.2
13	.56	.43	..	.30	..	.62	.62	.60	..	.28	.28	.28	.25	.30	.32	.69	.70	.61	.46	.94	.51	..	.27	.21	.41	.2
14	.14	.03	..	.06	..	.06	.05	.03	.06	.09	.07	.08	.09	.03	.07	.08	.08	.05	.04	.07	.05	.02	.10	.09	.07	.0
15	..	..	..	..	..	..	..	.01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.0
17	.10	..	..	.05	..	.10	.12	.09	..	.11	.11	.09	.10	.11	.11	.10	.09	.08	.07	.10	.06	..	.12	.10	.10	.0
18	.12	.11	..	.07	..	.06	.06	.06	.07	.08	.06	.06	.05	.06	.07	.09	.08	.07	.04	.09	.09	..	.08	.05	.05	.0
19	.04	.02	..	..	..	.06	.06	.05	.09	.04	.04	.04	.04	.07	.06	.08	.06	.06	.05	.03	..	..	.07	.05	.06	.0
20	.04	..	..	.08	..	.06	.03	.01	..	.04	.04	.04	.03	.06	.04	.01	.02	.02	.01	.05	.03	..	.05	.04	.05	.0
21	..	..	..	..	..	..	.01	..	..	.01	..	.01	.01	..	..	..	..	..	..	..	..	..	..	.01	..	.0
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.0
23	..	..	..	..	..	..	.01	..	..	..	..	..	..	..	.01	..	..	..	..	..	..	..	..	.01	..	.0
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.01	.02	..	..	..	..	..	..	.04	..	..	.
25	.02	.08	..	..	..	..	..	..	.04	..	..	.01	..	..	.01	.02	..	..	..	..	..	..	.02	..	.02	.0
26	.29	.30	..	.28	..	.14	.25	.23	.19	.29	.24	.30	.26	.38	.28	.16	.17	.18	.11	.03	.11	..	.28	.26	.21	.1
27	.96	.80	..	.96	..	.44	.73	.77	.71	1.06	.75	.92	1.03	.85	.90	.69	.67	.51	.33	.65	.53	..	.95	.73	.83	.7
28	.44	.57	..	.38	..	.36	.38	.38	.47	.40	.40	.42	.35	.44	.47	.43	.46	.70	.46	.54	.31	..	.44	.34	.30	.2
29	.24	.26	..	.40	..	.25	.36	.30	.22	.27	.30	.28	.34	.34	.35	.24	.22	.35	.23	.42	.28	..	.36	.42	.43	.4
30	.80	.75	..	.95	..	.61	.72	.91	.65	.71	.80	.85	.71	.90	.90	.73	.75	.79	.69	.67	.69	..	1.04	.83	1.02	.8
31	.46	.60	..	.30	..	.40	.50	.19	.32	.25	.37	.25	.42	.40	.54	.43	.33	.37	.10	.37	.14	..	.95	.82	.40	.4
*	5·54	5·32	5·20	5·18	2·98	4·23	5·23	4·98	3·82	4·94	4·79	4·92	4·91	5·23	5·44	5·21	4·96	5·21	3·48	5·32	4·12	4·96	6·14	5·11	4·88	4·4
†	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.

MONTHLY REPORT.

MONTHLY REPORT.

MONTHLY GAUGE.

* The figures in this row give the totals for the month. † The totals from January 1st.

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew.Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brm. Bn.)	Croydon (Wn.N.rd.)	Croydon (Dup. H.)	Croydon (Wdml.rd.)	Croydon (Park Hill)	Croydon (Ashbn.rd.)	Croydon (Avond rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump St.)	West Wickham	Hayes	Orpington	Farming-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1		..	·01	..	·05	·03	·05	·04	·06	..	·02	·03	..	·03	·05	·02	·02	·02	·02	·01	..	·01	·02	..	..	·0
2		..	·05	·07	·02	·08	·05	·03	·01	·06	·07	·08	..	·07	·06	·07	·09	·08	·11	·09	·11	·09	·06	·10	..	·0
3		·21	·04	·08	·08	·13	·11	·07	·09	·10	·12	·10	·18	·06	·10	·09	·09	·10	·11	·11	·11	·11	..	..	·15	·1
4		·18	·30	·21	·22	·15	·13	·11	·11	·14	·11	·12	·08	·15	·11	·09	·10	·10	·12	·12	·13	·13	·25	·22	·12	·1
5		..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	·01	·01	..	..	..	..	..	..	·0
6		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	.
7		·08	·06	·03	·03	·10	·03	·05	·02	·04	·04	·04	·03	·04	·04	·04	·04	·05	·07	·07	·09	·10	·07	·10	·07	·0
8		·06	·03	·04	·03	·06	·03	·03	·02	·05	·05	·04	·02	..	·04	·03	·02	·03	·04	·05	·05	·04	·02	·03	..	·1
9		·07	·07	·04	..	·04	·03	·04	·02	·03	·03	·03	·02	·02	·03	·02	·02	·02	·04	·04	·04	·04	·02	·04	·02	·0
10		·16	·23	·23	·22	·20	·17	·20	·16	·20	·19	·18	·15	·16	·17	·16	·16	·17	·20	·18	·23	·25	·24	·20	·18	·2
11		·06	·03	·05	·03	·07	·03	·03	·02	..	·03	·03	·02	·03	·03	·02	·02	·02	·04	·03	·03	·05	·01	·03	·02	·0
12		·22	·20	·20	·22	·30	·25	·24	·22	·25	·23	·23	·21	·24	·23	·24	·23	·21	·29	·25	·25	·26	·28	·20	·17	·1
13		·19	·22	·16	·16	·22	·19	·15	·14	·25	·16	·18	·15	·16	·16	·15	·18	·23	·24	·23	·32	·22	·30	·28	·20	·2
14		·10	·12	·12	·12	·10	·06	·04	·06	·05	·06	·06	·04	·05	·04	·04	·05	·05	·06	·05	·05	·05	·04	·05	·04	·0
15		..	..	..	..	..	..	..	..	·04	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17		·03	·05	·02	·03	·09	·06	·06	·04	·10	·06	·08	·06	·09	·09	·08	·08	·08	·09	·09	·10	·09	·08	·15	·08	·0
18		..	·06	·08	·05	·10	·04	·04	·03	·03	·04	·04	·03	·04	·03	·04	·04	·06	·04	·05	·09	·07	·04	..	·05	·0
19		·10	·01	·02	..	..	·03	·04	·03	·05	·03	·04	·04	..	·04	·04	·04	·05	·05	·06	·06	·06	·02	..	·04	·0
20		·07	·06	..	·06	·08	·04	·06	·04	·09	·05	·05	·04	·04	·05	·05	·04	·03	·04	·05	·05	·05	·03	·11	·02	·0
21		..	..	..	..	..	..	..	..	..	..	..	·03	..	..	..	·01	·05	..	·02	..	..	..	..	..	..	·0
22		..	..	..	..	..	..	..	..	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23		..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25		..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	·02	·02	·02	..	·01	..	..	..	..	..
26		·26	·22	·16	·12	·17	·12	·10	·08	·15	·14	·16	·12	·20	·15	·14	·14	·13	·19	·17	·19	·22	·21	·17	·21	·15
27		·83	·73	·47	·47	·99	·48	·37	·36	·35	·62	·67	·62	·60	·61	·58	·63	·62	·86	·74	·75	·77	·65	·65	·64	·5
28		·29	·31	·25	·25	·25	·28	·23	·21	·30	·24	·24	·21	·22	·22	·22	·20	·29	·24	·23	·41	·28	·25	·24	·30	·3
29		·34	·32	·16	·17	·55	·39	·34	·29	·25	·37	·34	·25	·33	·32	·27	·31	·28	·43	·38	·32	·42	·43	·42	·37	·2
30		·91	·90	·84	·76	1·08	·87	·58	·85	·75	·78	·76	·60	·75	·70	·70	·76	·74	·70	·80	·98	·98	·93	·82	·71	·5
31		·44	·43	·35	·33	·27	·20	·37	·20	·30	·29	·34	·40	·36	·36	·34	·35	·52	·53	·49	·74	·65	·70	·44	. ·34	·2
*	5·20	4·60	4·45	3·58	3·42	5·06	3·65	3·22	3·06	3·58	3·75	3·84	3·32	3·64	3·63	3·43	3·62	3·95	4·54	4·34	5·11	4·95	4·65	4·25	3·73	3·57
†	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

MONTHLY GAUGE.

* The figures in this row give the totals for the month. † The totals from January 1st.

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew. Wks.)	Wimbledon (The Downs)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew. Wks.)	Kingston (County H.)	Richmond	Putney Heath	Wandsworth Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·01	..	·05	..	·01	·02	..	..	..	·05	·01	·01	..	·03	..	·02	·04	..	·03	·07	..	·02	·07	·04	..	·04
2	·03	..	·04	·07	..	·05	·05	·09	·05	·01	·01	·04	..	·01	·02	·03	·03	..	·02	..	·07	·02	·01	·03	..	·01
3	·13	·16	·07	·07	·16	·06	·08	·09	..	·03	·07	·07	·04	·08	·12	·08	..	·04	·09	·07	·10	·07	·09	·10	·11	·09
4	·11	·09	·11	·10	·10	·11	·06	·09	·12	·13	·07	·09	·06	·09	·04	·10	·25	·17	·12	·10	..	·11	·08	·08	·06	·07
5	..	..	..	..	..	..	·01	..	·09	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	·04	·06	·05	·03	·11	·04	·04	·04	·02	·03	·03	·03	·10	·03	·01	·03	·03	·04	·03	·03	·03	·04	·04	·04	·04	·03
8	·09	·04	·03	·04	·04	·02	·01	·04	·02	·05	·01	·12	·17	·02	·01	·02	·05	..	·02	·01	..	..	·02	·02	·01	·02
9	·03	·02	·02	·04	·02	·02	..	·02	·08	·03	·01	·03	·04	·03	·02	·04	·06	·05	·04	·03	·05	·04	·03	·02	..	·02
10	·18	·14	·13	·12	·14	·13	·11	·02	·11	·17	·19	·19	·16	·18	·14	·18	·14	·18	·17	·19	·15	·17	·17	·18	·17	·19
11	·01	·01	·01	..	·02	·02	..	·16	·02	·03	·01	·02	·02	·03	·02	·02	·03	·02	·03	·02	·04	·03	·02	·03	·02	·01
12	·18	·24	·24	·24	·26	·23	·10	·25	·20	·23	·21	·23	·25	·22	·19	·21	·25	·23	·22	·25	·16	·24	·27	·24	·18	·23
13	·19	·19	·16	·16	·20	·16	·12	·19	·16	·17	·18	·17	·20	·14	·09	·12	·11	·18	·13	·18	·17	·05	·13	·25	·17	·18
14	·01	·03	·04	..	·04	·05	·08	·05	·06	·09	·03	·04	·03	·06	·03	·06	·08	·07	·07	·04	·08	·03	·04	·06	·04	·04
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..
17	·06	·10	·09	·09	·09	·08	..	·08	·06	·07	..	·02	·04	·05	..	·03	·03	·02	·03	·03	..	·03	·03	·04	·06	·07
18	·05	·07	·05	·07	·06	·05	·08	·05	·02	·03	..	·05	·08	·04	·05	·04	·05	·06	·06	·04	·08	·04	·04	·04	·04	·06
19	·04	·06	·04	·06	·05	·05	·05	..	·04	·02	·01	·03	·03	·01	..	·01	..	..	·02	·01	..	·02	·02	·06	·03	·04
20	·03	·02	·02	·04	·04	·04	..	·10	·04	·03	·05	..	·02	·06	·04	·05	·04	·04	·04	·05	·03	·06	·04	·03	·05	·03
21	·02	..	..	..	..	..	·04	·01	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	·02	..	..	..
22	..	..	..	..	..	..	..	..	..	·03	·01	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	·01
23	..	..	..	..	..	..	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	·05	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..	..	..	·27	..	·02	..	..	..	..	·02	·03	..	·02	..	·02	·01	..	..	..
26	·06	·12	·13	·10	·11	·11	..	·08	·07	·09	·05	·06	·10	·07	·04	·08	·07	·03	·05	·06	·08	·05	·03	·05	·10	·07
27	·32	·46	·48	·44	·55	·47	·29	·41	·35	·27	·26	·33	·26	·30	·18	·35	·32	·27	·30	·36	·22	·26	·27	·18	·29	·29
28	·29	·19	·21	·18	·21	·19	·38	·23	·22	·21	·25	·24	·24	·22	·19	·24	·25	·29	·23	·25	·33	·28	·22	·30	·17	·21
29	·20	·22	·26	·27	·32	·26	..	·21	·36	·20	·12	·19	·10	·17	·08	·16	·08	·09	·08	·12	·08	·11	·11	·08	·11	·14
30	·48	·60	·69	·63	·75	·61	·66	·55	·70	·56	·32	·46	·40	·48	·44	·64	·72	·56	·62	·85	·68	·61	·39	·47	·43	·43
31	·16	·20	·31	·27	·35	·46	·33	·37	·19	·29	·31	·44	·42	·44	·36	·36	·30	·37	·30	·13	·37	·23	·43	·17	·09	·33
*	2·72	3·02	3·23	3·02	3·63	3·23	2·49	3·13	2·98	3·19	2·21	2·89	2·76	2·77	2·07	2·87	2·96	2·74	2·70	2·91	2·72	2·53	2·58	2·51	2·17	2·63
†	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

* The figures in this row give the totals for the month.

† The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for Jan. is 1·92 ins.* **January, 1904.**

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sidcup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..		·09	..	·04	..	·06	..	·01	..	..	·04	·04	..	..	..	·02	·01	..
2	·09		·02	·06	·03	·05	..	..	·04	·03	·05	·05	·01	·06	·04	..	·05	..	..
3	·12		·11	·10	·10	·12	·11	·05	·09	·10	·10	·11	·11	·10	·10	·02	·08	·08	·07
4	·09		·09	·06	·10	·09	·09	·01	·10	·06	·08	·06	·08	·08	·02	·04	·08	·07	·05
5	..		..	·01	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..
6	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	·05		·05	·04	·05	·05	·03	..	·08	·05	·04	·05	·05	·05	·03	·03	·05	·05	·04
8	·02		·04	·03	·12	·07	·08	·05	·10	·01	·02	·02	·01	·02	..	..	·04	·02	..
9	·03		·03	·02	·03	·02	·01	·01	·03	·01	·02	·03	·02	·03	·02	·04	·02	·02	..
10	·16		·17	·17	·11	·13	·15	·08	·10	·11	·18	·15	·18	·16	·10	·10	·16	·15	·12
11	·02		·02	·02	·01	·01	..	..	·09	·01	..	·01	·02	·03	·01	..	·02	·02	..
12	·24		·26	·27	·24	·22	·25	·09	·27	·12	·23	·26	·25	·31	·22	·24	·29	·24	·30
13	·16		·20	·23	·18	·25	·23	·18	·22	·13	·20	·24	·21	·05	·05	·16	·16	·16	·06
14	·04		·03	·04	·05	·02	·03	·02	·04	·01	·02	·04	·04	·03	·02	·04	·04	·03	·02
15	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	·08		·05	·07	·10	·04	·05	·03	·08	·02	·07	·05	·08	·05	·03	·05	·06	·05	·03
18	·06		·06	·05	·05	·03	·03	·03	·07	·03	·02	·04	·04	·02	..	·04	·05	·03	·03
19	·06		·04	·03	·05	·02	..	·02	·06	..	·02	·04	·02	·03	..	·05	·02	·03	·02
20	·05		·05	·04	·03	·02	..	·02	·06	·06	·04	·05	·06	·04	..	·06	·05	·05	·05
21	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..
22	..		..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..
23	..		..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..
26	·10		·08	·10	·07	·07	·08	·02	·07	·03	·07	·05	·07	·04	·02	·05	·04	·04	·03
27	·33		·30	·28	·33	·29	·23	·03	·35	·13	·28	·19	·25	·24	·16	·10	·28	·22	·18
28	·22		·22	·22	·17	·22	·20	·15	·19	·12	·22	·28	·22	·18	·12	·16	·18	·18	·19
29	·15		..	·10	·19	·17	·22	·02	·14	·07	·08	·05	·12	·15	·07	·29	·10	·08	·14
30	·58		·42	·34	·56	·51	·40	·06	·44	·22	·51	·34	·33	·42	·26	·44	·43	·29	·40
31	·23		·28	·35	·09	·15	·15	·05	·29	·23	·22	·26	·25	·21	·16	·22	·29	·36	·14
*	2·88	3·03	2·61	2·63	2·70	2·56	2·40	·92	2·93	1·55	2·47	1·41	2·46	2·30	1·43	2·13	2·53	2·19	1·87
†	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

MONTHLY REPORT.

* The figures in this row give the totals for the month. † The totals from January 1st.

NOTES.

(January, 1904.)

The month has been an extremel wet one, and if we may take th record of Greenwich as fairly repre senting the district, it has not bee exceeded since January, 1894. has been a mild month. There wa a silver thaw throughout the dis trict on the 2nd, and a glazed fro at Wallington on the 23rd. Th month has been somewhat un healthy, catarrhal affections bein prevalent, and there were als several cases of scarlet fever of mild type. A thunderstorm occurre in most places on the 13th; and solar halo was seen at Claphar Park on the 5th, and at Greenwic on the 11th, and a lunar halo wa seen throughout the district on th 26th. A very brilliant meteor of reddish hue was seen at Croydo on the 13th at 8 p.m. Hazel ca kins out at Crohamhurst on the 9th and snowdrops opened at Nutfiel on the 29th. The month's rainfa is nearly double the average in mos places. The mean temperature o the month is about 1° above th average, and was at Clapham Par 41°·4, at Chipstead, Wallington, an Croydon (Duppas House) 38°·8, a Worcester Park 38°·2, and at Wa lingham 37°·6. There were recorde at Wallington 39·3 hours of sun light, which is 2·9 hours or one pe cent. below the January average o the fifteen years 1886–1900.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Se*

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.La.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	Reigate Hill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (lower ga.)	Cheveningg Park	Sevenoaks	Chelsham	Warling-ham	Kenley (Hazelea)	Kenley (Place Fell)	Sander-stead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·13	·17	·22	·15	·14	·11	·14	·08	·14	·14	·15	·13	·16	·17	·20	·18	·18	·15	·12	·18	·34	·44	·25	·23	·18	·18
2	·40	·44	·38	·39	·25	·22	·26	·36	·31	·35	·21	·29	·34	·41	·26	·36	·30	·21	·18	·24	·16	·44	·28	·28	·25	·26
3	·20	·24	·28	·28	·18	·12	·16	·14	·19	·20	·11	·18	·22	·17	·20	·24	·68	·26	·16	·23	·21	·24	·22	·23	·22	·23
4	·09	·07	·08	·07	·12	·10	·09	·08	·09	·10	·10	·10	·08	·10	·13	·08	·08	·10	·08	·12	·10	·07	·13	·08	·07	·06
5	·02	..	..	..	·07	·02	·03	·01	·02	·02	·02	·02	·01	..	·02	·01	..	·02	·01	·06	·03	·03	·03	·01	·03	·01
6	·09	·14	·12	..	..	·06	·06	·06	·05	·07	·07	·07	·09	·09	·08	·08	·10	·10	·03	·05	·08	·08	·10	·08	·06	·07
7	·29	·30	·20	·32	·04	·12	·16	·17	·19	·24	·16	·23	·27	·04	·19	·25	·27	·25	·20	·32	·27	·23	·21	·24	·23	·23
8	·05	·06	·03	·05	·59	·02	·02	·03	·02	·03	·02	·03	·02	·01	·02	·02	·08	·03	·02	·08	·07	·02	·02	·03	·02	·02
9	·54	·52	·67	·72	·33	·45	·61	·59	·49	·55	·62	·59	·58	·60	·60	·64	·58	·66	·46	·66	·56	·72	·72	·68	·60	·61
10	·32	·43	·28	·33	·13	·28	·28	·28	·29	·42	·28	·34	·37	·42	·41	·29	·30	·34	·31	·31	·27	·32	·32	·31	·31	·34
11	..	..	·93	·90	..	·01	·01	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	·02	·01	..
12	·74	·80	·93	·90	·72	·47	·69	·65	·57	·71	·65	·69	·78	·64	·61	·58	·65	·67	·35	·68	·49	·67	·67	·68	·70	·74
13	·16	·05	·03	·02	·07	·08	·07	·09	·09	·05	·04	·06	·09	·06	·06	·05	·08	·06	·03	·06	·12	·06	·06	·06	·02	..
14	·06	..	·02	·05	·04	·04	·03	·02	·03	·04	·05	·05	·07	·07	·06	·06	·06	·03	·02	·04	·04	·07	·05	·05	·05	·04
15	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	·01	·04	·02	·01
16	·23	·29	·25	·22	·28	·22	·29	·27	·24	·24	·27	·26	·24	·28	·30	·30	·31	·28	·16	·32	·23	·31	·31	·22	·23	·23
17	·14	·12	·12	·09	·10	·11	·09	·07	·11	·11	·07	·10	·09	·08	·09	·09	·09	·04	·01	·14	·07	·09	·09	·08	·08	·06
18	..	..	..	..	..	..	..	..	..	·01	·01	·01	..	..	..	..	..	..	..	..	..	..	..	..	·01	..
19	·15	·15	·13	·14	·15	·12	·13	·13	·14	·16	·16	·17	·15	·18	·20	·21	·25	·28	·15	·24	·26	·20	·20	·11	·15	·11
20	·10	·06	·05	·06	·06	·05	·04	·03	·04	·04	·03	·04	·03	·04	·03	·02	·05	·03	·03	·03	·02	·02	·02	·02	·02	·01
21	·03	·02	·01	..	·04	·04	·04	·02	·03	·02	·03	·02	·01	·03	·04	·05	·06	·05	·02	·04	·06	·05	·05	·01	·01	·02
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	·08	·07	·08	..	·06	·03	·03	·05	·05	·05	·03	..	·06	·04	·03	..	..	..	..	..	·02	·05	..	·02	..	·02
27	·01	..	..	·04	·07	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	·01	..	..	..	..	..
28	·04	·06	..	..	..	·05	·05	·04	·05	·06	·06	·03	·05	·05	·11	·10	..	·12	·11	·09	·04	·04	·08	·05	·07	·07
29	..	..	·04	..	·07	·01	·02	·01	·02	·01	..	..	·01	·02	..	·01	·03	·01	·01	·04	·02	..	·02	·02	·03	·02
*	3·87	3·99	3·92	4·07	3·61	2·73	3·30	3·18	3·11	3·62	3·13	3·48	3·65	3·50	3·63	3·62	4·15	3·69	2·43	3·94	3·47	4·41	3·91	3·51	3·37	3·34
†	9·41	9·31	9·12	9·25	6·59	6·96	8·53	8·16	6·93	8·56	7·92	8·40	8·56	8·73	9·07	8·83	9·11	8·90	5·91	9·26	7·59	9·37	10·05	8·62	8·25	7·81

MONTHLY GAUGE.

* The figures in this row give the totals for the month.

† The totals from January 1st.

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew.Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim. Bn.)	Croydon (Wn.N.rd.)	Croydon (Dup. H.)	Croydon (Wdmd.rd.)	Croydon (Park Hill)	Croydon (Ashbn.rd.)	Croydon (Avond.rd.)	Addington Hills	Addington (Park Fm.)	Addington (Tump.St.)	West Wickham	Hayes	Orpington	Farming-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1		·16	·13	·14	·12	·17	·15	·17	·16	·17	·13	·13	·10	·12	·15	·16	·17	·19	·17	·20	·15	·23	·02	·18	·18	·21
2		·36	·31	·26	·20	·36	·27	·27	·27	·20	·24	·23	·20	·21	·20	·20	·21	·20	·27	·26	·27	·30	·33	·27	·38	·14
3		·28	·23	·23	·24	·23	·25	·22	·23	·30	·21	·18	·16	·16	·18	·17	·22	·26	·19	·22	·32	·27	·30	·30	·21	·26
4		·08	·06	·09	·07	·07	·04	·05	·03	·05	·04	·04	·02	·03	·04	·02	·04	·03	·05	·08	·09	·08	·06	·05	·09	·08
5		·03	·02	·01	·01	·02	·07	·03	·01	·04	·03	·03	·02	·02	·03	·03	·01	·02	·02	·02	·01	·01	..	..	..	·03
6		·09	·07	·05	·05	·09	·05	·06	·05	·06	·07	·07	·06	·06	·08	·05	·05	·06	·07	·07	·08	·08	·06	..	·06	·06
7		·31	·26	·21	·20	·31	·27	·21	·25	·30	·24	·26	·25	·28	·28	·27	·25	·26	·27	·23	·22	·21	·21	·29	·22	·24
8		·06	·04	·10	·02	·11	·04	·08	·04	..	·01	..	..	·01	..	·01	·01	·02	·02	·03	·03	·01	·01	..	..	·03
9		·58	·62	·62	·58	·61	·64	·62	·61	·87	·57	·59	·53	·56	·58	·53	·56	·58	·60	·61	·72	·73	·71	·70	·70	·60
10		·36	·35	·43	·38	·37	·34	·35	·33	·35	·33	·31	·32	·33	·32	·32	·34	·35	·42	·36	·32	·31	·40	·36	·32	·32
11		·02	..	..	..	..	·01	..	..	..	·01	..	..	·01	..	..	..	..	..	..	·01	·01	..	..	..	..
12		·93	·66	·52	·50	·79	·52	·46	·44	·55	·63	·67	·57	·64	·66	·63	·70	·74	·81	·81	·78	·70	·64	·73	·73	·70
13		·03	..	·02	·02	..	..	·03	·01	·03	..	..	..	..	..	·01	..	..	·01	·02	·02	·01	·03	·01	·01	·02
14		·03	·04	·05	·05	·07	·04	·04	·03	·05	·05	·05	·04	..	·05	·04	·04	·04	·05	·04	·03	·04	·01	·04	·03	·05
15		..	..	..	·01	..	·02	..	..	..	·02	·01	..	..	·01	..	..	..	·02	·01	·02	·01	..	·01	..	..
16		·36	·21	·25	·20	·23	·19	·18	·17	·17	·20	·19	·18	·25	·21	·17	·22	·23	·24	·22	·26	·25	·28	·29	·29	·28
17		·08	·08	·07	·06	·10	·05	·06	·06	·06	·07	·06	·06	·08	·06	·07	·07	·30	·07	·07	·10	·09	·05	·09	·09	·07
18		..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19		·12	·12	·10	·10	·13	·11	·12	·10	·12	·11	·12	·10	·11	·12	·10	·10	·12	·13	·12	·14	·13	·15	·13	·10	·11
20		·05	·04	·07	·05	·06	·02	·03	·01	·02	·01	·01	..	·01	·01	·01	·01	..	·02	..	·01	·01	..	..	..	..
21		..	..	..	·02	..	..	..	..	·02	·01	·01	..	..	..	..	..	·01	·02	·02	·02	·02	..	·02	·02	·01
22		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01
26		..	·04	..	·02	..	·03	·02	·02	..	·01	·02	·02	·01	·02	·01	·01	..	·02	·01	·02	·01	..	..	..	..
27		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28		..	..	..	..	..	·07	·03	·02	·03	·04	·04	·04	·04	·04	·03	·03	·05	·06	·06	·04	·08	·01	..	·10	·11
29		·11	·08	·03	·02	·11	·01	·02	·01	·03	..	·01	·01	·01	·01	·01	·02	·05	·02	·01	·04	·01	·01	·10	..	·01
*	3·79	4·04	3·36	3·27	2·92	3·83	3·19	3·05	2·85	3·42	3·03	3·03	2·68	2·94	3·05	2·84	3·06	3·51	3·55	3·47	3·70	3·60	3·28	3·57	3·53	3·34
†	8·99	8·64	7·81	6·85	6·34	8·89	6·84	6·27	5·91	7·00	6·78	6·87	6·00	6·58	6·68	6·27	6·68	7·46	8·09	7·81	8·81	8·55	7·93	7·82	7·26	6·91

MONTHLY GAUGE.

* The figures in this row give the totals for the month. † The totals from January 1st.

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew. Wks.)	Wimbledon (The Downs)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew. Wks.)	Kingston (County H.)	Richmond	Putney Heath	Wandsworth Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·22	·16	·10	·15	·13	·22	·01	·16	·14	·25	·14	·15	·13	·15	·12	·13	·16	·13	·13	·17	·13	·15	·13	·15	·14	·15
2	·15	·26	·24	·18	·23	·34	·23	·20	·38	·36	·22	·16	·20	·18	·12	·21	·20	·19	·15	·15	·11	·14	·17	·27	·31	·17
3	·21	·24	·30	·23	·31	·23	·23	·20	·18	·33	·15	·20	·17	·20	·11	·18	·19	·24	·17	·19	·21	·19	·20	·20	·14	·15
4	·03	·04	·04	·05	·06	·04	..	·04	·04	·07	·02	·04	·02	·05	·02	·06	·03	·03	·04	·03	·04	·03	·03	·03	·05	·03
5	·01	..	·01	·02	·02	·02	·02	·02	..	·07	..	·01	·01	·02	..	·01	·08	..	·01	·01	..	·01	·01	..	..	·01
6	·02	·03	·04	·05	·06	·05	·06	·30	·06	·09	·04	·06	·06	·04	..	·05	·04	·05	·04	·06	·05	·03	·05	·05	·05	·04
7	·23	·21	·21	·21	·20	·24	·05	..	·25	·27	·16	·18	·18	·20	·19	·17	·23	·18	·21	·23	·35	·20	·20	·19	·16	·21
8	·01	..	·02	·02	·02	·01	·15	·48	·09	·47	·02	·03	·01	·03	..	·03	..	..	·01	·01	..	·01	·01	·04	·08	·07
9	·57	·56	·59	·51	·62	·52	·45	·33	·55	·37	·41	·47	·42	·48	·37	·69	·47	·41	·48	·56	·53	·42	·45	·42	·39	·43
10	·31	·33	·34	·32	·32	·33	·30	·33	·32	·33	·30	·31	·31	·31	·26	·34	·35	·30	·31	·38	·33	·28	·25	·28	·32	·31
11	..	..	..	·01	..	..	..	..	..	·01	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..
12	·53	·60	·68	·63	·65	·64	·42	·51	·50	·28	·26	·34	·30	·30	·17	·35	·39	·52	·36	·40	·38	·38	·36	·25	·25	·32
13	..	..	..	..	·01	..	·06	..	·03	·07	·05	·04	·05	·06	·04	·02	·10	·03	·08	·06	·06	..	·03	·05	·05	·03
14	·02	·06	·08	·06	·05	·05	·02	·07	·04	·05	·06	·06	·06	·04	·03	·03	·05	·05	·05	·05	·06	·08	·07	·08	·05	·06
15	..	..	..	..	·01	..	..	..	..	·28	..	..	..	·03	..	..	..	..	..	..	..	..	..	..	..	..
16	·20	·25	·25	·23	·25	·21	·07	·17	·16	·09	·13	·13	·12	·14	·11	·18	·12	·09	·13	·11	·12	·09	·12	·14	·16	·18
17	·05	·07	·07	·09	·05	·06	·14	·09	·08	·02	·06	·06	·02	·04	·04	·05	·05	·05	·06	·06	·06	·04	·06	·07	·04	·06
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	·08	·12	·12	·12	·12	·13	·06	·11	·10	·10	·10	·10	·14	·13	·06	·09	·09	·08	·08	·09	·10	·09	·11	·14	·10	·11
20	·01	..	·01	..	·01	·01	..	..	·01	·03	..	·02	·02	·02	..	·02	·03	·02	·03	·02	·02	·01	·02	·05	·01	·01
21	·01	·01	·01	·02	·01	·01	..	·02	..	..	..	·01	·01	·02	..	..	..	·01	..	·01	·02	·01	·02	·03	..	·02
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01
26	·01	..	..	..	..	..	..	..	..	..	..	·02	..	..	·01	·01	..	·02	·01	·02	..	..	..	..	..	..
27	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	·08	·05	·05	·07	·05	·03	..	..	·02	..	·01	..	·01	..	..	..	..	..	·01	·02	..	..	·01	·01	..	·02
29	·03	·01	·02	·03	·03	·02	·03	·07	·02	·07	·01	·02	·02	..	..	·03	·05	·01	..	·01	·03	·02	..	·02	..	·01
*	2·79	3·00	3·18	3·00	3·21	3·16	2·30	3·10	2·97	3·61	2·14	2·41	2·27	2·44	1·65	2·65	2·63	2·41	2·36	2·64	2·60	2·18	2·30	2·47	2·30	2·40
†	5·51	6·02	6·41	6·02	6·84	6·39	4·79	6·23	5·95	6·80	4·35	5·30	5·03	5·21	3·72	5·52	5·59	5·15	5·06	5·55	5·32	4·71	4·88	4·98	4·47	5·05

* The figures in this row give the totals for the month.

† The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for Feb. is 1·50 ins.* **February, 1904.**

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sidcup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·15		·15	·12	·15	·21	·22	·14	·16	·12	·17	·15	·17	·16	·14	·16	·14	·15	·17
2	·17		·17	·13	·44	·13	·18	·07	·28	·12	·23	·37	·37	·31	·25	·18	·28	·16	·24
3	·20		·15	·14	·16	·23	·20	·04	·22	·14	·15	·17	·18	·20	·16	·17	·21	·16	·04
4	·05		·06	·07	·03	·05	·05	·02	·03	·04	·07	·04	·05	·02	..	·06	·07	·08	..
5	·02		·02	·02	·01	·01	·02	..	·03	·01	·01	..	..	..	·06	·02	·01	·02	·01
6	·04		·06	·07	·03	·03	·03	..	·06	·04	·05	·06	·07	·08	..	·07	·06	·05	·08
7	·22		·19	·19	·19	·15	·13	·05	·21	·13	·24	·18	·21	·23	·14	·22	·19	·19	·17
8	·03		·04	·04	·01	·01	..	·01	·01	·08	·08	·03	·04	·08	..	·12	·05	·08	·19
9	·42		·39	·37	·48	·52	·53	·14	·47	·27	·45	·45	·43	·44	·44	·44	·42	·36	·30
10	·35		·31	·28	·32	·34	·30	·23	·28	·16	·36	·26	·31	·24	·18	·23	·22	·22	·19
11	..		·02	·02	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..
12	·34		·33	·30	·61	·52	·44	·06	·45	·13	·31	·29	·30	·32	·20	·26	·32	·25	·21
13	·04		·03	·04	..	..	..	..	·02	·03	·04	·03	·06	·01	..	·03	·06	·05	..
14	·06		·10	·10	·06	·02	·04	·02	·05	·04	·08	·10	·08	·11	·08	·07	·05	·05	·05
15	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	·20		·23	·16	·24	·23	·24	·06	·22	·13	·19	·16	·18	·14	·06	·18	·21	·19	·13
17	·08		·08	·07	·08	·06	..	·04	·07	·05	·07	·07	·07	·07	·05	·08	·06	·07	·07
18	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	·11		·14	·15	·15	·11	·18	·05	·16	·09	·13	·12	·12	·12	·08	·14	·13	·13	·12
20	·03		..	·02	·01	·01	..	..	·04	·01	..	·02	·03	·02	·04	..	·03	·02	..
21	·02		..	·02	·02	·01	·03	..	·04	..	·02	·03	·01	..	·02	·06	..	·02	..
22	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..		..	..	·01	..	..	·01	·01	..	..	..	..	..	..	..	..	..	..
26	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	·03		..	..	·04	·06	·05	·02	·03	..	..	..	·01	..	..	..	·01	·02	..
29	·03		·04	·02	·02	·02	·02	..	·02	..	..	·02	·01	..	..	..	·01	·01	·02
*	2·59	2·76	2·51	2·33	3·06	2·72	2·66	·96	2·86	1·59	2·65	2·55	2·70	2·55	1·90	2·49	2·54	2·28	1·99
†	5·47	5·79	5·12	4·96	5·76	5·28	5·06	1·88	5·79	3·14	5·12	3·96	5·16	4·85	3·33	4·62	5·07	4·47	3·86

MONTHLY REPORT.

* The figures in this row give the totals for the month.

† The totals from January 1st.

NOTES.

(February, 1904.)

The first three weeks were mild and wet, and the last week was cold, with frequent snow showers, which yielded little water. Owing to the wet, the cultivation of the land was practically at a standstill. The month has been fairly healthy, though influenza has been prevalent in some parts. There was a thunderstorm with hail throughout the district on the night of the 12th–13th. There was some dust in the gauge at Sanderstead on the 12th. A kingfisher was seen on Abinger Mill Pond on the 7th, and at Nutfield the first crocus opened on the 2nd, and rooks began to build in a desultory way on the old nests on the 15th. Solar halos were observed at Greenwich on nine days, at Nutfield on the 2nd and 19th, and at Upper Gatton on the 11th; whilst lunar ones were observed at Greenwich on the 1st and 2nd, and at Nutfield on the 8th. The rainfall is over one inch above the average. The mean temperature of the month is about one degree above the average, and was at Clapham Park 40°·8, at Croydon (Duppas House) 39°·8, at Wallington, and Worcester Park 39°·4, at Chipstead 37°·7, and at Warlingham 37°·6. There were recorded at Wallington 75·7 hours of sunlight, which is 13·6 hours or five per cent. above the February average of the fifteen years 1886–1900.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	ReigateHill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (tower ga.)	Chevening Park	Sevenoaks	Chelsham	Warlingham	Kenley (Hazelea)	Kenley (Place Fell)	Sanderstead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·09	·16	·15	..	..	·13	·13	·08	·12	·15	·12	·09	·12	·14	·17	·39	..	·13	·08	·09	·10		·14	·10	·16	·14
2	·19	·15	·19	·30	·44	·24	·25	·29	·27	·24	·30	·25	·23	·28	·29	·15	·53	·22	·18	·49	·25		·29	·35	·34	·34
3	·06	·08	·07	·08	·07	·05	·04	·04	·07	·09	·07	·07	·09	·15	·05	·08	·06	·08	·08	·07	·05		·10	·09	·12	·12
4	·06	·05	·07	·03	·04	·02	·02	·02	·03	·03	·05	·03	·03	·06	·08	..	..	..	..	·01	..		·04	·03	·04	·03
5	·07	·10	·08	·08	·06	·08	·07	·07	·06	·08	·10	·09	·08	·11	·06	·14	·15	·12	·11	·11	·10		·12	·13	·15	·13
6	·03	..	·02	·02	·03	·03	·04	·03	·03	·02	·02	·01	·02	·03	·07	·02	..	..	..	·05	·01		·02	·03	..	·03
7	·19	·25	·22	·20	·17	·20	·20	·18	·14	·15	·16	·16	·16	·18	·16	·12	·13	·12	·10	·20	·18		·14	·17	·20	·17
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	·01	..	..
9	..	..	..	..	..	·03	·03	·01	..	·01	·03	·01	..	·04	·09	..	..	..	..	..	..		·14	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..		..	..	..	..
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		·01	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	·01	..	..
14	..	..	..	..	..	..	..	..	..	·01	..	..	·01	..	·01	..	..	..	..	..	..		..	..	·02	·01
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..		..	..	..	..
19	·07	..	·05	·05	·09	·07	·09	·05	·09	·06	·07	·06	·06	·09	·08	·04	·05	·06	·05	·09	·08		·07	·05	·06	·05
20	..	..	..	..	·01	..	..	·01	..	..	..	..	·01	..	..	..	..	..	..	..	..		..	·01	..	..
21	·06	·10	·05	·06	·03	·03	·03	·03	·03	·04	·03	·03	·04	·03	·04	·03	·02	·03	·02	·03	·03		·05	·04	·05	·04
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..
24	·02	..	..	·04	·03	·03	·03	·01	·03	·05	·03	·04	·02	·06	·05	·04	..	·02	·01	..	·04		·06	·04	·05	·05
25	·09	·12	·11	·12	·12	·11	·11	·14	·06	·11	·10	·10	·10	·05	·06	·02	·07	·05	·04	·09	·02		·06	·05	·06	·04
26	·02	·06	·04	·10	·07	·02	·02	·26	·08	·03	·02	·01	·02	..	..	..	..	..	..	..	..		·01	·01	..	·03
27	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	·01	..	..	..	..	..	..		..	..	..	..
28	·26	·26	·30	·31	·28	·17	·22	·24	·25	·32	·24	·30	·25	·30	·29	·18	·17	·20	·11	·11	·10		·29	·25	·24	·21
29	·22	·16	·18	·20	·16	·16	·16	·18	·10	·18	·15	·18	·18	·18	·16	·17	·15	·18	·14	·27	·19		·21	·26	·14	·11
30	·04	..	·02	·10	·22	·20	·22	·22	·16	·14	·31	·18	·29	·36	·23	·21	·20	·20	·16	·28	·15		·18	·27	·33	·26
31	·03	·07	·05	·02	·03	·02	·02	·02	·02	·04	·04	·04	·04	·04	·05	·04	·04	·04	·02	..	·03		·04	·03	·02	·03
*	1·50	1·56	1·60	1·71	1·85	1·59	1·68	1·89	1·54	1·75	1·84	1·65	1·75	2·10	1·97	1·63	1·57	1·45	1·10	1·89	1·33	1·94	1·97	1·93	1·98	1·79
†	10·91	10·87	10·72	10·96	8·44	8·55	10·21	10·05	8·47	10·31	9·76	10·05	10·31	10·83	11·04	10·46	10·68	10·35	7·01	11·15	8·92	11·31	12·02	10·55	10·23	9·60

MONTHLY GAUGE.

* The figures in this row give the totals for the month.

† The totals from January 1st.

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew. Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim. Bn.)	Croydon (Wn.N.rd.)	Croydon (Dup. H.)	Croydon (Wdml.rd.)	Croydon (Park Hill)	Croydon (Ashbn.rd.)	Croydon (Avond rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump. St.)	West Wickham	Hayes	Orpington	Farming-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·68	·02	·12	..	..	·09	·09	·09	·08	·02	·08	·09	·10	·11	·10	·10	·07	·05	·12	·09	·11	·09	·03	..	·09	·09
2	·29	·11	·30	·32	·30	·26	·25	·27	·23	·37	·30	·31	·25	·26	·30	·33	·22	·40	·33	·26	·38	·31	·55	·45	·36	·35
3	·12	·25	·17	·10	·07	·10	·10	·12	·10	·10	·11	·11	·12	·20	·12	·10	·07	·12	·11	·12	·14	·10	·10	·11	·10	·10
4	·02	·11	·04	·05	·05	..	·02	·02	·02	·02	·03	·02	·02	·02	·02	..	·02	·02	·03	·02	·02	·03	..	·01	..	..
5	·09	·03	·09	·07	·10	·12	·09	·10	·10	·10	·11	·10	·10	·13	·11	·11	·10	·10	·11	·12	·16	·14	·11	·14	·13	·13
6	..	·12	·04	·02	·02	..	·02	·02	·01	·02	·03	·02	·02	..	·03	·02	·02	·04	·03	·02	·03	·02	·02	..	·01	·01
7	·18	·17	·17	·12	·11	·20	·15	·15	·14	·12	·14	·15	·15	·18	·17	·16	·16	·16	·18	·14	·17	·15	·12	·15	·11	·13
8	·03	..	..	..	..	..	·01	..	..	·04	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	..	..	·02	..	·01	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..	..	·01	..	..	..	·02	·01	..	..	·02	·02	..	·03	·02	·01	·01	·01	·02	·02	..	·01	·01	..	·01	·03
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	·07	·06	·03	·05	·05	·09	·04	·05	·04	·05	·05	·04	·05	·05	·05	·04	·05	·04	·06	·05	·01	·05	·04	·11	·05	·08
20	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..
21	·07	·07	·04	·05	·05	·06	·05	·07	·06	·06	·06	·06	·05	·04	·06	·07	·05	·07	·06	·05	·06	·05	·05	·05	·03	·03
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	·07	·06	·06	..	·03	..	·03	·05	·03	..	·04	·04	·04	·06	·04	·04	·03	·03	·05	·05	·04	·04	·02	..	·03	·05
25	·05	·12	·11	·10	·08	..	·03	·04	·03	·02	·04	·03	·03	·04	·04	·02	·03	·04	·03	·03	·06	·03	·03	·08	·01	·02
26	·10	·03	·02	..	·05	·13	·01	·04	·01	·03	·02	·01	..	..	..	..	..	·01	·01	·01	..	..	..	..	..	..
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	·29	·23	·22	·22	·15	·20	·12	·12	·12	·09	·13	·14	·12	·14	·14	·13	·15	·16	·23	·18	·22	·23	·19	·19	·16	·14
29	·16	·18	·18	·12	·10	·14	·13	·15	·20	·23	·12	·17	·20	·18	·15	·18	·20	·19	·16	·12	·18	·15	·14	·17	·13	·15
30	·11	·16	·19	·16	·12	..	·25	·20	·21	·19	·23	·20	·14	·16	·16	·11	·12	·14	·27	·15	·19	·25	·18	·23	·24	·22
31	·07	·03	·02	·02	·02	·04	·01	·01	..	..	·02	·02	·05	·01	·01	·01	·01	·01	·03	·02	·02	·02	..	·02	·01	·01
*	2·40	1·75	1·84	1·40	1·31	1·43	1·43	1·51	1·40	1·46	1·53	1·53	1·44	1·61	1·52	1·43	1·31	1·59	1·83	1·46	1·79	1·67	1·59	1·71	1·47	1·54
†	11·39	10·39	9·65	8·25	7·65	10·32	8·27	7·78	7·31	8·46	8·31	8·40	7·44	8·19	8·20	7·70	7·99	9·05	9·92	9·27	10·60	10·22	9·52	9·53	8·73	8·45

* The figures in this row give the totals for the month.

† The totals from January 1st.

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew. Wks.)	Wimbledon (The Downs)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew. Wks.)	Kingston (County H.)	Richmond	Putney Heath	Wandsworth Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·09	·11	·09	·09	·09	·11	..	·09	..	·05	·04	·07	·07	·08	·05	·06	..	·06	·07	·04	·03	·07	·06	·05	·11	·05
2	·39	·33	·37	·38	·38	·33	·35	·33	·32	·29	·15	·25	·17	·29	·17	·28	·23	·20	·23	·24	·33	·22	·23	·32	·22	·33
3	·09	·12	·12	·13	·11	·11	·09	·11	·08	·13	·06	·08	·09	·10	·06	·10	·10	·11	·10	·10	·10	·10	·08	·08	·08	·09
4	·01	..	..	..	·02	·01	·01	·01	·01	·01	..	·02	..	·02	..	·02	·04	·04	·02	·02	·03	·02	·01	·01	..	..
5	·12	·12	·12	·13	·10	·11	..	·11	·10	·09	·09	·10	·10	·10	·07	·08	·04	·06	·08	·09	·08	·07	·07	·11	·09	·09
6	·01	·03	·02	·03	·04	·03	·09	·02	..	..	·02	·02	·02	·02	·01	·02	·02	·02	·02	·01	·03	·03	·03	·01	·02	·02
7	·10	·11	·12	·12	·13	·12	·13	·17	·12	·12	·10	·10	·09	·11	·09	·11	·11	·13	·10	·12	·16	·12	·09	·13	·11	·13
8	..	..	..	..	..	..	·01	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..
9	..	..	·01	..	..	..	..	..	..	..	·01	·01	·01	·01	..	..	..	..	..	..	..	..	..	·03	..	·01
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	·03	·01	..	..	·03	·02	·02	·02	·02	·02	·01	·03	·02	·02	·01	·01	..	·01	·01	·02	..	·03	·02	·01	..	·02
15	..	..	..	..	..	..	..	..	..	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	·08	·07	·09	·06	·07	·05	·04	·05	·04	·04	·04	·04	·05	·05	·03	·06	·05	·07	·06	·06	·07	·05	·03	·04	·06	·05
20	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	·03	·04	·04	·05	·04	·05	·10	·09	·03	·07	·06	·07	·08	·07	·03	·05	·03	·05	·05	·07	·05	·08	·08	·09	·08	·08
22	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..
23	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	·04	·05	·03	·06	·06	·05	..	·03	·07	·02	·01	·04	·04	·03	·03	·02	·03	·03	·03	·03	..	·03	·02	·04	·03	·02
25	·01	·03	·04	·03	·03	·03	·09	·03	·02	·03	·02	·01	·03	·04	·02	·04	·04	·02	·04	·04	·07	·03	·02	·01	·01	·03
26	..	..	..	..	..	..	..	..	·01	·01	..	·02	·04	·02	·02	·05	·03	·03	·02	·02	·04	·01	·03	..	..	..
27	..	..	..	..	..	..	..	..	..	·01	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..
28	·04	·12	·13	·13	·15	·12	..	·11	·10	·11	·11	·14	·16	·12	·11	·11	·12	·19	·17	·19	·18	·19	·19	·12	·10	·08
29	·22	..	·16	·17	·14	·16	·15	·14	·20	·17	·09	·14	·13	·16	·14	·20	·21	·18	·17	·12	·18	·17	·13	·13	·07	·12
30	·25	·34	·29	·25	·23	·20	·15	·17	·16	·14	·11	·08	·12	·10	·15	·19	·28	·17	·20	·20	·18	·09	·15	·21	·17	·16
31	·02	..	·01	·01	·02	·02	·02	·01	·01	·01	·01	·02	·03	·02	..	..	·01	·02	·01	·02	·02	·03	·02	·02	..	·01
*	1·54	1·48	1·64	1·65	1·64	1·53	1·25	1·49	1·29	1·32	·94	1·24	1·30	1·36	·99	1·40	1·34	1·39	1·38	1·39	1·55	1·34	1·26	1·41	1·15	1·29
†	7·05	7·50	8·05	7·67	8·48	7·92	6·04	7·72	7·24	8·12	5·29	6·54	6·33	6·57	4·71	6·92	6·93	6·54	6·44	6·94	6·87	6·05	6·14	6·39	5·62	6·34

* The figures in this row give the totals for the month.

† The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for March is 1·47 ins.* **March, 1904.**

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sidcup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·06		·06	·06	·09	·09	·08	·13	·06	·03	·02	·07	·06	·09	·04	..	·07	·08	·05
2	·33		·23	·26	·34	·32	·32	·32	·35	·02	·38	·29	·28	·27	·12	·25	·31	·30	·22
3	·10		·09	·07	·11	·09	·09	·09	·12	·22	·09	·06	·09	·08	·03	·06	·12	·10	·06
4	·02		·01	·01	..	·01	..	..	..	..	..	..	·01	..	..	..	..	·01	..
5	·12		·09	·07	·12	·15	·10	·07	·12	·09	·08	·08	·10	·11	·06	·09	·11	·10	·10
6	..		·03	·02	·02	·01	·02	..	·02	·03	·05	·03	·05	·02	·01	·04	·01	·02	·02
7	·17		·15	·13	·10	·12	·12	·05	·13	·12	·17	·12	·14	·12	·07	·13	·12	·10	·14
8	..		..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	·02		..	·01	·02	·03	·05	..	·03	·02	..	·03	·01	·03	·02	..	..	..	..
10	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	·03		..	·03	·02	·02	·02	·01	..	..	·03	·01	·03	·03	·01	..	·02	·02	..
15	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	·07		·06	·04	·07	·07	·10	·04	·07	·04	·05	·06	·05	·06	·04	·06	·07	·06	·05
20	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	·08		·09	·07	..	·03	·04	·03	·05	·06	·10	·07	·09	·09	·06	·02	·04	·05	·05
22	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..		..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	·04		·06	·03	·06	·05	·04	·03	·04	·02	·03	·02	·05	·03	..	..	·02	·02	..
25	·05		·02	·02	·03	·01	·03	·04	·04	..	·03	·03	·02	·01	..	..	·02	·02	..
26	..		..	..	..	..	..	·01	..	..	..	..	..	..	..	·03	..	..	..
27	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	·10		·03	·08	·13	·09	·09	·03	·11	·10	·13	·16	·14	·19	·15	·12	·11	·09	·13
29	·15		·15	·13	·16	·12	·03	..	·15	·11	·10	·10	·12	·17	·15	·11	·09	·10	·15
30	·22		·19	·31	·14	·33	·34	·10	·20	·20	·28	·24	·26	·24	·22	·17	·24	·18	·18
31	·03		·02	·03	·01	·01	·03	·01	·03	·03	·02	·05	·01	·03	..	·06	·02	·02	·01
*	1·59	1·36	1·28	1·38	1·43	1·55	1·50	·96	1·52	1·09	1·56	1·42	1·51	1·57	·98	1·14	1·37	1·27	1·16
†	7·06	7·15	6·40	6·34	7·19	6·83	6·56	2·84	7·31	4·23	6·68	5·38	6·67	6·42	4·31	5·76	6·44	5·74	5·02

MONTHLY REPORT.

* The figures in this row give the totals for the month.

† The totals from January 1st.

NOTES.

(March, 1904.)

The month may be divided into three parts: from the 1st to 9th wet, with frequent snow showers; from the 9th to 19th fine; and from the 19th to 31st wet, with frequent snow showers. The rainfall is about one-fifth below the average. The month has been somewhat unhealthy, influenza being somewhat prevalent, and there have been several cases of diphtheria in places. There was a thunderstorm with hail on the 29th, and a house was struck by lightning at Wallington. The hail accompanying this thunderstorm was at Croydon half an inch in diameter, and at Sanderstead of the size of hazel-nuts. Owing to the cold weather, vegetation is rather backward. At Sidcup the sallow bloomed on the 20th, and the almond on the 28th. Solar halos were seen at Greenwich on the 13th and 30th, and at Clapham Park on the 22nd; and lunar ones at Greenwich on the 24th, 29th, and 31st, and at Upper Gatton on the 24th. There was dust in the rain gauge at Sanderstead on the 21st. The mean temperature of the month is about a degree and a half below the average, and was at Clapham Park 43°·2, at Croydon (Duppas House) 40°·9, at Wallington 40°·4, at Chipstead and Worcester Park 40°·3, and at Warlingham 39°·0. There were recorded at Wallington 92·3 hours of sunlight, which is 22·7 hours or six per cent. below the March average of the fifteen years 1886–1900.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	ReigateHill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (tower ga.)	Chevening Park	Sevenoaks	Chelsham	Warlingham	Kenley (Hazelea)	Kenley (Place Fell)	Sanderstead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
2	·11	·10	·05	·14	·09	·06	·09	·07	·06	·13	·10		·12	·13	·14	·15	·11	·17	·06	·13	·09		·15	·08	·08	·06
3	·10	·09	·10	·13	·09	·08	·11	·01	·08	·08	·05		·08	·06	·06	·05	·05	·04	·04	·07	·03		·06	·07	·09	·06
4	·04	·04	·04	·06	·10	·06	·09	·06	·08	·07	·08		·04	·06	·08	·10	·13	·13	·11	·15	·11		·08	·02	·07	·05
5	·09	·08	·08	·10	·08	·08	·08	·08	..	·06	·06		..	·07	·08	·07	·09	·09	·05	..	·08		·09	·15	·08	·07
6	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	·03	..		..	..	..	..
7	·09	·07	·07	·08	·06	·05	·05	·05	·05	·05	·05		·04	..	·07	·08	·07	·04	·04	..	·03		·06	·05	·05	·04
8	..	..	..	..	..	..	..	·01	..	·01	..		..	..	·01	..	..	..	..	·02	..		·01	..	..	..
9	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	·01	..	..
10	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
11	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
12	·34	·30	·33	·32	·40	·37	·41	·36	·41	·42	·36		·42	·39	·39	·32	·35	·39	·33	·35	·34		·35	·40	·38	·37
13	·04	..	·03	·02	·03	·01	·01	·01	..	·01	·01		..	·03	·01	·03	·04	·04	·02	·03	·02		·02	·01	·01	..
14	·02	·04	..	..	..	..	..	·01	·01	·01	..		·02	..	..	..	..	..	..	..	..		·01	·01	..	..
15	·14	·16	·15	·13	·03	·08	·09	·10	·07	·10	·07		·10	·08	·08	·10	·11	·12	·10	·07	·12		·08	·08	·10	·08
16	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
22	·51	·51	·45	·55	·76	·62	·62	·57	·67	·77	·61		·76	·64	·59	·34	·34	·34	·23	·30	·26		·46	·56	·59	·47
23	..	·02	..	..	·03	·05	·05	·03	·05	·02	..		·01	..	..	..	..	..	..	·01	..		..	·01	·01	..
24	..	..	..	..	..	..	..	..	..	..	..		..	..	·02	..	..	..	..	..	..		..	..	..	..
25	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
26	..	..	..	..	..	..	..	·01	·01	·02	..		·02	..	..	..	..	..	..	..	..		..	..	..	·01
27	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
29	·07	·05	·06	·05	·05	·04	·04	·03	·06	·07	·06		·03	·06	·06	·05	·06	·04	·03	·04	·04		·04	..	·02	·01
30	..	..	..	..	·01	·01	..	·01	..	·01	·01		..	·01	..	·01	·01	..	..	·03	..		..	..	..	..
*	1·55	1·46	1·36	1·58	1·73	1·51	1·64	1·41	1·55	1·83	1·46		1·64	1·53	1·59	1·30	1·36	1·40	1·01	1·23	1·12	1·10	1·41	1·45	1·48	1·22
†	12·46	12·33	12·08	12·54	10·17	10·06	11·85	11·46	10·02	12·14	11·22		11·95	12·36	12·63	11·76	12·04	11·75	8·02	12·38	10·04	12·41	13·43	12·00	11·71	10·82

RECORD CEASED.

MONTHLY GAUGE.

* The figures in this row give the totals for the month.

† The totals from January 1st.

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew.Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim.Bn.)	Croydon (Wn.N.rd.)	Croydon (Dup. H.)	Croydon Wdml.rd.)	Croydon (Park Hill)	Croydon (Ashbn.rd.)	Croydon (Avond rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump.St.)	West Wickham	Hayes	Orpington	Farming-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·05	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	·09	·09	·06	·03	·03	..	·04	·02	·03	·03	·06	·06	·03	·05	·05	·04	·05	·07	·10	·06	·09	·09	·06	·09	·06	·04
3	·08	·06	·10	·10	·09	·08	·06	·06	·06	·06	·07	·07	·06	·06	·06	·07	·06	·07	·08	·06	·07	·07	·05	·07	·04	·05
4	·04	·06	·06	·06	·05	·06	·06	·05	·04	·05	·06	·06	·05	·06	·06	·07	·05	·07	·07	·07	·06	·07	·07	..	·10	·17
5	·06	·06	·04	·07	·07	·09	·06	·06	·05	·04	·06	·06	·05	·05	·05	·05	·06	·06	·07	·06	·05	·06	·05	·15	.04	·05
6	·04	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	·05	·04	·04	·04	·04	·05	·03	·04	·05	..	·05	·04	..	·03	·04	·03	·03	·03	·05	·03	·07	·05	·03	·04	..	·01
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..
9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	·54	·37	·24	·20	·25	·22	·35	·31	·31	·10	·37	·34	·34	·34	·32	·28	·30	·30	·37	·26	·32	·31	·35	·28	·23	·26
13	·09	·02	·04	·02	..	·19	·01	..	·03	·35	·01	·01	..	..	..	·01	·01	·01	..	·02	..	·01	..	..	·01	·01
14	..	..	·01	..	·02	..	·01	·03	..	..	·01	·01	..	·01	·01	·01	·01	·01	·02	·01	·02	..	..	..	..	..
15	·18	·14	·15	·18	·18	·16	·11	·14	·13	·11	·10	·10	..	·10	·09	·11	·09	·12	·08	·12	·12	·10	·13	·18	·17	·13
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	·60	·52	·45	·38	·35	·64	·55	·48	·47	·54	·61	·59	·40	·57	·54	·52	·43	·41	·54	·39	·37	·40	·33	·26	·21	·31
23	·04	..	..	..	..	..	..	..	·01	..	·01	..	..	..	..	..	..	·04	..	..	·01	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	·02	..	..	..	..	..	·01	·01	..	..	·02	·01	..	..	·01	·01	·01	·01	·02	·01	·01	..	..	..	·01	·01
27	..	..	..	..	..	..	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	·04	·05	·04	·08	·08	·05	·04	·06	·04	·03	·03	·03	·03	·02	·03	·03	·02	·03	·03	·03	·03	·02	..	..	·01	·02
30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
*	1·92	1·41	1·23	1·16	1·16	1·54	1·33	1·26	1·22	1·33	1·46	1·38	·96	1·29	1·26	1·23	1·12	1·23	1·43	1·13	1·22	1·18	1·07	1·07	·88	1·06
†	13·31	11·80	10·88	9·41	8·81	11·86	9·60	9·04	8·53	9·79	9·77	9·78	8·40	9·48	9·46	8·93	9·11	10·28	11·35	10 40	11·82	11·40	10·59	10·60	9·61	9·51

* The figures in this row give the totals for the month. † The totals from January 1st.

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for April is 1·59 ins.* **April, 1904.**

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew. Wks.)	Wimbledon (The Downs)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew. Wks.)	Kingston (County H.)	Richmond	Putney Heath	Wandsworth Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	..	..	..	..	..	..	..	·01	..	..	·03	..	..	..	·01	..	..	..	..	..	..	..		..
2	·02	·03	·05	·05	·05	·05	·02	·04	·02	·02	·05	·05	·05	·03	..	·03	·02	·05	·05	·04	·04	·03	·03	·05		·03
3	·02	·05	·05	·06	·06	·08	·06	·09	·06	·07	·06	·08	·06	·08	·04	·07	·08	·07	·08	·09	·07	·05	·05	·05		·06
4	·10	·10	·10	·12	·08	·10	·04	·09	·04	·03	·07	·06	·08	·05	·03	·04	·04	·04	·05	·03	·05	·06	·07	·08		·09
5	·05	·05	·05	·05	·04	·05	·03	·06	·06	·06	·07	·05	·07	·06	·03	·05	·05	·05	·06	·05	·05	·05	·07	·08		·06
6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
7	..	..	·01	·02	·02	·03	·02	·04	·03	·03	·03	·03	·04	·04	..	·03	·03	·03	·03	·03	·03	·02	·03	·05		·03
8	..	..	..	..	..	·01	..	..	..	·01	..	..	·01	..	..	..	..	..	..	..	..	..	·01	..		..
9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
12	·31	·19	·19	·20	·22	·21	·21	·25	·32	·24	·18	·15	·14	·18	·11	·24	·20	·20	·15	·17	·16	·15	·13	·17		·20
13	·01	..	..	..	·01	..	..	·01	·01	·01	·01	..	·01	·01	..	..	·01	·01	..	..	..	..	..	..		·01
14	..	..	..	·01	..	..	..	..	..	·01	·01	·02	·02	·01	..	·02	·03	·03	·01	·02	·03	·03	·02	·02		·01
15	·08	·17	·20	·17	·16	·15	·10	·11	·08	·11	·09	·14	·16	·13	·13	·12	·12	·17	·13	·15	·13	·11	·15	·08		·11
16	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..		..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
22	·15	·26	·31	·28	·24	·30	·11	·45	·51	·49	·42	·38	·37	·38	·32	·37	·21	·28	·23	·30	·28	·24	·39	·44		·50
23	..	..	..	..	..	·01	·29	..	..	..	..	..	..	·01	..	..	..	·02	..	..	..	..	..	..		..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
26	·01	..	..	·01	·01	·01	·01	..	·01	..	..	·02	·01	·01	..	..	·01	..	·01	..	..	..	·01	·01		·02
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
29	..	·02	·03	·03	·03	·04	·01	·05	·04	·06	·06	·06	·08	·06	·04	·06	·04	·07	·05	·07	·07	·10	·08	·07		·07
30	..	..	..	..	..	..	·02	..	..	..	..	..	·01	..	..	..	..	·01	..	..	..	·01	..	..		..
*	·75	·87	·99	1·00	·92	1·04	·92	1·19	1·18	1·15	1·05	1·04	1·15	1·05	·70	1·03	·85	1·03	·85	·95	·91	·85	1·04	1·10		1·19
†	7·80	8·37	9·04	8·67	9·40	8·96	6·96	8·91	8·42	9·27	6·34	7·58	7·48	7·62	5·41	7·95	7·78	7·57	7·29	7·89	7·78	6·90	7·18	7·49		7·53

RECORD CEASED.

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for April is 1·59 ins.* **April, 1904.**

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sidcup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	·05		·03	·05	·04	·03	·03	·02	·06	·03	·03	·05	·04	·02	·02	·08	·06	·05	·04
3	..		·01	·02	·04	·03	..	·02	·06	..	·05	·07	·06	·06	·05	·06	·09	·07	·10
4	·12		·14	·14	·11	·13	·20	·09	·13	·09	·15	·13	·10	·11	·07	·09	·12	·08	·09
5	·07		·07	·07	·07	·05	·07	·04	·08	·04	·07	·08	·08	·08	·05	·10	·08	·07	·08
6	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	·04		·03	·02	·02	..	·04	..	..	..	·03	·05	·02	·03	..	·03	·01	·01	·01
8	·01		..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..
9	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	·22		·17	·16	·18	·26	·22	·26	·14	·14	·23	·22	·24	·17	·13	·18	·16	·15	·14
13	..		..	..	·01	·01	..	·01	..	..	·03	·04	·03	..	..	·02	·01	..	·02
14	·03		..	·02	..	·01	..	..	..	..	·01	..	·01	·01	..	..	·01	..	..
15	·11		·13	·12	·20	·12	·12	·07	·18	·10	·15	·09	·10	·10	·07	·16	·15	·15	·12
16	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	·54		·46	·47	·24	·17	·19	·90	·20	·32	·66	·58	·55	·36	·36	·34	·24	·29	·39
23	..		..	·01	·03	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	·02		..	·01	..	·02	..	..	·01	..	·01	..	..	·01	..	..	..	·01	..
27	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	·07		·06	·06	·03	·01	..	..	·04	·03	·07	·07	·09	·07	·02	·02	·05	·03	·05
30	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
*	1·28	1·20	1·10	1·15	·97	·84	·87	1·41	·90	·75	1·49	1·38	1·32	1·02	·77	1·08	·99	·91	1·04
†	8·34	8·35	7·50	7·49	8·16	7·67	7·43	4·25	8·21	4·98	8·17	6·76	7·99	7·44	5·08	6·84	7·43	6·65	6·06

MONTHLY REPORT.

* The figures in this row give the totals for the month.

† The totals from January 1st.

NOTES.

(April, 1904.)

The month has been warm and dry, with rather more than the average amount of sunshine. The month has been on the whole a healthy one, though cases of diphtheria, scarlet fever, and measles have occurred in places. Vegetation has progressed well, and fruit-blossom, especially on the apple-trees, is very abundant. A thunderstorm occurred throughout the district on the night of the 12th–13th. In portions of the district there was intense darkness between noon and 3 p.m. on the 15th. A parhelion was seen at Greenwich and Croydon on the 20th. The following are the earliest dates on which the following occurred: Cuckoo heard at Chislehurst on the 13th; martins seen at Chislehurst on the 13th; swallow seen at Bromley on the 10th; wryneck heard at Nutfield on the 11th; nightingale heard at Nutfield on the 12th; and chiffchaff heard at Croydon on the 16th. The mean temperature of the month is about 2°·5 above the average, and was at Clapham Park 51°·1, at Croydon (Duppas House) 50°·1, at Wallington and Worcester Park 49°·4, at Chipstead 48°·6, and at Warlingham 47°·8. The rainfall is about half an inch below the average. There were recorded at Wallington 172·3 hours of sunlight, which is 12·4 hours or three per cent. above the April average of the fifteen years 1886–1900.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for May is 1·90 ins.* **May, 1904.**

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	ReigateHill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (tower ga.)	Chevening Park	Sevenoaks	Chelsham	Warlingham	Kenley (Hazelea)	Kenley (PlaceFell)	Sanderstead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·19	·30	·21	·16	·21	·16	·18	·15	·18	·16	·18		·10	·14	·15	·21	·21	·25	·14	·19	·15		·14	·09	·11	·10
2	·24	·23	·18	·22	·24	·22	·23	·25	·22	·22	·21		·21	·23	·27	·26	·27	·35	·20	·32	·25		·26	·21	·19	·18
3	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
4	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
5	·08	·08	·06	·08	·08	·09	·09	·05	·05	·06	·06		·05	·01	·07	·04	·04	·03	·02	·04	·04		·08	·05	·06	·06
6	·18	·07	·06	·02	·05	·05	·05	·06	·07	·06	·08		..	·13	·05	·08	·14	·10	·09	·10	·14		·07	·06	·06	·03
7	..	..	..	..	·02	·02	·02	·01	·02	·02	·02		·08	·04	·04	·11	·06	·06	·05	·07	·08		·04	·03	·04	·04
8	·02	..	..	..	..	..	..	·02	·03	·01	..		..	·01	·02	·02	·02	·05	·05	·05	·05		·02	..	·01	·01
9	·08	·11	·07	·11	·03	·03	·03	·03	..	·07	·06		·02	·07	·08	·08	·03	·03	·02	..	·04		·09	·03	·03	·03
10	·04	..	·05	·08	·05	·04	·04	·04	·10	·05	·14		·08	·04	·07	·03	·07	·09	·09	·12	·09		·07	·06	·09	·08
11	·03	..	..	..	·01	·01	·01	·02	·02	·02	..		·01	..	..	..	..	..	..	..	..		·01	..	..	..
12	..	..	..	..	·01	·01	·01	·01	..	·01	..		..	..	·01	..	..	..	..	..	..		..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
14	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
15	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
16	..	..	..	..	..	..	..	·01	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
20	·76	·60	·62	·68	·50	·47	·46	·58	·49	·50	·44		·46	·44	·41	·42	·42	·35	·31	·34	·27		·43	·40	·42	·36
21	·04	·03	·02	·02	·01	·02	·02	·01	·02	·01	..		·01	·01	·01	·01	·01	·05	·05	..	·03		·01	·01	·02	..
22	..	·02	..	..	..	..	..	..	..	·02	..		..	·01	..	..	..	..	..	..	..		..	..	..	..
23	·16	·10	·13	·12	·10	·09	·09	·07	·10	·14	·12		·11	·12	·13	·11	·13	·13	·08	·11	·10		·13	·08	·10	·08
24	·13	·20	·12	·13	·21	·19	·21	·14	·15	·13	·16		·13	·17	·18	·13	·11	·14	·10	·12	·11		·17	·01	·12	·11
25	..	·30	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
26	1·35	·44	·68	·40	·24	·22	·23	·32	·11	·23	·25		·28	·28	·29	·13	·10	..	..	..	..		·16	·26	·25	·18
27	·02	·43	·19	·15	·37	·34	·34	·20	·34	·29	26		·29	·21	·37	·08	·02	·03	·02	..	..		·28	·28	·22	·36
28	·04	..	..	..	..	..	..	·01	..	·01	..		..	..	..	..	..	..	..	·04	..		..	·01	..	..
29	..	..	..	..	..	..	..	·01	..	·01	..		·01	..	·02	·01	..	·02	·02	..	·01		·02	·02	·03	·02
30	·14	·12	·09	·12	·10	·11	·11	·07	·08	·09	·11		·10	·10	·12	·18	·02	·12	·12	·23	·27		·13	·09	·10	·07
31	·28	·29	·28	·27	·41	·47	·47	·41	·38	·42	·42		·37	·45	·45	·60	·86	·64	·60	·55	·61		·48	·37	·36	·34
*	3·78	3·32	2·76	2·56	2·64	2·54	2·59	2·47	2·36	2·53	2·41		2·31	2·46	2·74	2·50	2·51	2·41	1·96	2·28	2·24	2·22	2·59	2·06	2·21	2·05
†	16·24	15·65	14·84	15·10	12·81	12·60	14·44	13·93	12·38	14·67	13·63		14·26	14·82	15·37	14·26	14·55	14·16	9·98	14·66	12·28	14·63	16·02	14·06	13 92	12·87

RECORD CEASED.

MONTHLY GAUGE.

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew. Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim. Bn.)	Croydon (Wn. N. rd.)	Croydon (Dup. H.)	Croydon (Wdml. rd.)	Croydon (Park Hill)	Croydon (Ashbn. rd.)	Croydon (Avond rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump. St.)	West Wickham	Hayes	Orpington	Farming-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·11	·16	·11	·08	·18	·13	·21	·26	·26	·28	·18	·18	·26	·18	·16	·33	·20	·23	·13	·11	·11	·10	·10	·13	·08	·06
2	·20	·21	·19	·22	·19	·19	·17	·16	·18	·20	·20	·18	..	·20	·18	·19	·19	·20	·21	·18	·22	·22	·22	·18	·19	·16
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01
4	·04	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	·07	·08	·07	·10	·12	·08	·07	·08	·07	·07	·08	·07	·06	·06	·06	·08	·07	·07	·08	·06	·08	·06	·05	·06	·01	·02
6	·05	·05	..	·05	·05	·05	·04	·11	·05	·06	·18	·19	·16	·21	·25	·05	·20	..	·05	·03	·03	·03	·02	..	·03	·03
7	·04	..	·04	·02	·03	..	·03	·05	·05	·06	·07	·06	·06	·06	·06	·08	·07	·22	·07	·06	·08	·05	·05	·09	·08	·08
8	..	..	..	..	..	..	..	..	..	..	·01	..	..	·01	·01	·01	..	·06	·01	·01	·01	·01	..	·03	·03	·05
9	..	·08	·02	·04	·05	..	·06	·09	·04	·03	·04	·03	·03	·03	·04	·04	..	·01	·04	·04	·04	·05	·02	·04	·03	·02
10	·09	·07	·10	·08	·07	·14	·05	·03	·07	·08	·07	·07	·08	·08	·09	·06	·17	·12	·09	·09	·10	..	·09	·10	·14	·19
11	..	..	..	..	..	..	..	·02	..	..	..	..	..	·01	·01	·01	..	·01	..	·01	..	..	..	·03	·01	·02
12	·03	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	·54	·53	·58	·63	·58	·51	·50	·53	·52	·45	·41	·40	·40	·46	·43	·45	·49	·47	·42	·45	·43	·42	·46	·37	·29	·22
21	..	..	·02	..	·01	..	·01	..	..	..	·01	..	·02	..	..	..	..	·04	..	·01	·08	..	·01	..	..	·01
22	..	..	..	·05	·07	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·09	..	..	..	..	..
23	·20	·11	·08	·10	·10	·14	·09	·09	·08	·08	·08	·08	·06	·07	·08	·06	·06	·07	·11	·09	..	·09	·07	·07	·06	·07
24	·04	·15	·12	..	·05	·12	·10	·10	·10	·12	·11	·10	·13	·10	·10	·10	·08	·10	·12	·11	·08	·13	·11	·13	·13	·12
25	·06	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	·17	·42	·51	·29	·28	·20	·20	·34	·32	..	·22	·19	·19	·20	·20	·14	·15	..	·17	·15	..	·14	..	..	·01	..
27	·34	·46	·12	·54	·44	·44	·30	·29	·23	·56	·27	·40	·20	·22	·23	·20	·15	·25	·44	·10	·20	·12	·09	·07	·02	·02
28	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	·01	..	·01	..	..	..	..	..	..
29	..	..	..	..	..	·05	·01	·02	·01	·02	·02	·01	·01	·01	·01	·01	·02	·02	·03	·03	·03	·03	·02	·05	·03	·03
30	·18	·09	·09	·08	·08	·15	·06	·08	·06	·05	·09	·07	·06	·07	·07	·08	·07	·05	·08	·13	·06	·14	·42	·15	·24	·21
31	·31	·34	·28	·43	·30	·25	·51	·54	·56	·37	·35	·39	·40	·48	·46	·39	·47	·48	·41	·43	·55	·41	·22	·49	·43	·44
*	2·47	2·75	2·33	2·71	2·60	2·45	2·41	2·79	2·60	2·43	2·40	2·42	2·12	2·45	2·44	2·28	2·39	2·41	2·46	2·10	2·19	2·00	1·95	1·99	1·81	1·76
†	15·78	14·55	13·21	12·12	11·41	14·31	12·01	11·83	11·13	12·22	12·17	12·20	10·52	11·93	11·90	11·21	11·50	12·69	13·81	12·50	14·01	13·40	12·54	12·59	11·42	11·27

* The figures in this row give the totals for the month. † The totals from January 1st.

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for May is 1·90 ins.* **May, 1904.**

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew.Wks.)	Wimbledon (TheDowns)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew.Wks.)	Kingston (CountyH.)	Richmond	Putney Heath	Wandswth. Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.		IN.
1	·10	·28	·27	·28	·13	·22	·01	·21	·23	·20	·07	·10	·13	·10	·05	·19	·03	·07	·09	·09	·07	·20	·12	·12		·09
2	·17	·19	·19	·20	·18	·17	·21	·20	·19	·10	·16	·17	·19	·16	·16	·17	·14	·19	·17	·20	·21	·15	·16	·18		·19
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..		..
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
5	·02	·04	·04	·05	·05	·06	·06	·09	·09	·07	·06	·06	·05	·06	·06	·07	·06	·03	·08	·06	·08	·04	·06	·07		·07
6	..	·03	·04	·05	·03	·13	·03	·07	·08	·05	·02	·05	·08	·03	·02	·06	·07	·05	·05	·07	·09	·07	·09	·05		·03
7	·09	·07	·05	·05	·07	·05	·03	·06	·07	·05	·03	·03	·04	·03	..	·02	·03	·02	·03	..	·03	·02	·04	·05		·06
8	·05	·03	·04	·03	·03	·03	·01	·01	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	·01		·02
9	·02	·02	·03	·04	·03	·03	..	·05	·02	·09	..	·04	·05	·04	·05	·03	·06	·04	·05	·07	·06	·11	·05	·05		·04
10	·20	·11	·10	·11	·10	·08	·11	·07	·10	·05	·11	·10	·15	·08	·10	·08	·06	·13	·12	·14	·11	·17	·17	·14		·10
11	·02	·02	·02	·03	·03	·02	..	·02	·01	·01	·02	·02	·02	·02	·01	·01	·02	·02	·02	·02	·03	·03	·03	·03		·02
12	..	·06	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	RECORD CEASED.	..
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
20	·18	·22	·35	·35	·31	·40	·04	·54	·45	·46	·41	·48	·47	·45	·55	·57	·50	·52	·52	·55	·52	·54	·45	·34		·41
21	·04	·01	..	..	·02	..	·35	..	..	·01	·01	·01	·01	·01	·02	·01	·01	·01	..	..	·05	·04	·02	·10		·02
22	..	..	..	..	..	..	..	..	..	..	..	·01	·01	..	..	..	·02	..	·03	·01	..	·09	·01	..		..
23	·03	·05	·05	·06	·05	·06	..	·07	·08	·07	·06	·08	·05	·07	·06	·09	·10	·09	·08	·09	·10	·10	·08	·10		·08
24	·15	·12	·11	·10	·12	·09	·09	·10	·10	..	·07	·08	·09	·07	·05	·08	·05	·05	·05	·07	·07	·09	·08	·09		·11
25	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
26	..	..	..	·04	..	·02	..	·03	·22	·01	·17	·28	·27	·24	·27	·34	·36	·34	·42	·41	·04	·34	·17	·02		·03
27	..	·04	·06	·08	·07	·09	·08	·14	·51	·67	·28	·43	·44	·44	·20	·32	·34	·31	·22	·24	·62	·37	·29	·21		·13
28	..	..	..	..	..	..	..	..	..	·01	..	..	·01	·01	..	..	·01	..	..	..	..	..	..	..		..
29	·04	·04	·02	·02	·03	·02	..	·02	·01	·01	..	..	·01	..	..	..	..	..	..	..	..	·01	..	·02		·02
30	·19	·24	·22	·18	·16	·20	·02	·18	·11	·25	·10	·11	·13	·09	·06	·07	·07	·08	·08	·09	·05	·10	·12	·10		·11
31	·35	·48	·55	·55	·49	·49	·39	·49	·40	·48	·30	·29	·30	·28	·27	·34	·23	·21	·24	·30	·26	·33	·28	·43		·48
*	1·65	2·05	2·15	2·22	1·90	2·16	1·45	2·35	2·67	2·59	1·87	2·35	2·53	2·18	1·93	2·45	2·16	2·16	2·26	2·41	2·39	2·80	2·22	2·11		2·01
†	9·45	10·42	11·19	10·89	11·30	11·12	8·41	11·26	11·09	11·86	8·21	9·93	10·01	9·80	7·34	10·40	9·94	9·73	9·55	10·30	10·17	9·70	9·40	9·60		9·54

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for May is 1·90 ins.* **May, 1904.**

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sidcup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·11		·11	·10	·19	·18	·26	·09	·13	·07	·12	·12	·14	·19	·17	·16	·21	·14	·23
2	·19		·19	·19	·20	·16	·08	·11	·21	·12	·21	·17	·16	·17	·12	·18	·18	·16	·13
3	..		..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	·09		·07	·07	·05	·02	·04	·01	·03	·05	·09	·06	·07	·04	·03	·10	·06	·07	·05
6	·04		·04	·04	·03	·01	·08	..	·03	·02	·03	·07	·09	·10	·02	·06	·05	·04	·02
7	·07		..	·06	·06	·08	·03	·04	·07	·05	·06	·05	·01	·05	·03	·06	·05	·05	·03
8	·03		·06	·02	·06	·03	..	·02	·04	·01	·02	·02	·02	·01	·02	·04	·03	·03	..
9	·05		·08	..	·05	·04	·04	·01	·07	·03	·02	·05	·05	·20	..	·07	·06	·06	·21
10	·11		·12	·15	·16	·17	·18	·17	·18	·15	·17	·18	·15	·10	·06	·16	·18	·20	·02
11	·03		·03	·03	·02	·01	·04	·02	·02	·03	·03	·02	·03	·05	·02	·04	·02	·02	..
12	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	·46		·36	·42	·29	·25	·25	·14	·27	·31	·61	·40	·48	·46	·27	·34	·34	·30	·32
21	·02		·02	·02	..	..	..	·04	·02	..	·02	·07	·03	·02	..	·04	·01	·02	..
22	·08		..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..
23	..		·08	·09	·07	·07	..	·06	·08	·07	·11	·09	·10	·10	·06	·10	·08	·08	·07
24	·09		·08	·07	·13	·12	·18	·08	·12	·06	·09	·08	·09	·09	·05	·09	·09	·07	·06
25	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	..		·04	·02	·01	·07	..	..	..	..	·03	..	·05	·10	·03	·14	·05	..	·11
27	·13		·09	·09	·05	..	·04	..	·06	·07	·13	·16	·13	·08	·04	..	·09	·10	·07
28	..		..	·01	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..
29	·03		·02	·01	·03	·08	..	·02	·02	·01	..	..	·02	..	..	..	·02	·01	..
30	·22		·24	·25	·33	·18	·15	·03	·30	·20	·20	·07	·14	·18	·12	·20	·18	·13	·24
31	·45		·46	·41	·50	·41	·43	·34	·48	·35	·53	·46	·44	·42	·30	·32	·39	·38	·38
*	2·20	2·08	2·09	2·05	2·24	1·83	1·80	1·19	2·14	1·60	2·47	2·07	2·20	2·36	1·34	2·10	2·09	1·86	1·94
†	10·54	10·43	9·59	9·54	10·40	9·50	9·23	5·44	10·35	6·58	10·64	8·83	10·19	9·80	6·42	8·94	9·52	8·51	8·00

MONTHLY REPORT.

* The figures in this row give the totals for the month.

† The totals from January 1st.

NOTES.

(May, 1904.)

The month was cold and stormy for the first ten days, then fine and warm for nine days, and then rainy and unsettled for the remaining days. The weather on the 27th was very remarkable. There was a thunderstorm between 8 a.m. and 9 a.m. in which, at Sutton, ·26 in. of rain fell; and then at 9.45 a.m. there was another thunderstorm, in which ·26 in. of rain fell in fifteen minutes, and at Sanderstead ·31 in. fell in the same time; then followed intense darkness for about an hour. The month on the whole has been a healthy one. Solar halos have been observed throughout the district on many occasions. Fruit prospects are fairly good, with the exception of of pears, which in places are thin. The horse-chestnut flowered on the 11th, the white may on the 16th, and the red may on the 18th at Wallington. The rainfall of the month is about one-half an inch above the average. The mean temperature is about one degree above the average, and was at Clapham Park 56°·5, at Croydon (Duppas House) 54°·5, at Chipstead 54°·4, at Worcester Park 53°·9, at Wallington 53°·8, and at Warlingham 52°·4. There were recorded at Wallington 157·8 hours of sunlight, which is 42·8 hours or nine per cent. below the May average of the fifteen years 1886–1900.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for June is 1·94 ins.* **June, 1904.**

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	ReigateHill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (tower ga.)	Chevening Park	Sevenoaks	Chelsham	Warling-ham	Kenley (Hazelea)	Kenley (PlaceFell)	Sander-stead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·12	..	·01	·04	·40	·25	·25	·10	·34	·18	·16		·19	·15	·18	·11	·11	·22	·19	·14	·18		·20	·24	·24	·27
2	·02	..	..	·02	..	..	..	..	·01	·01	..		..	..	..	..	·01	..	..	..	..		..	..	..	..
3	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
4	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
5	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
6	..	..	..	..	..	..	..	..	..	·03	..		..	..	·01	..	..	..	..	..	..		..	..	..	..
7	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
8	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
9	·09	·14	·14	·15	·13	·14	·14	·19	..	·11	·07		·08	·08	·10	·15	·17	·30	·30	·29	·29		·12	·12	·12	·14
10	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
11	..	..	..	..	..	..	..	·01	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
12	..	..	..	..	..	..	..	·01	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
13	·01	..	..	..	..	..	..	·26	..	·01	..		·01	..	·02	·02	·02	·01	·01	·02	..		..	..	..	..
14	·21	·23	·20	·25	·23	·23	·24	·19	·22	·24	·23		·22	·23	·24	·26	·29	·29	·24	·31	·23		·27	·26	·24	·23
15	·08	·14	·05	·05	·04	·03	·04	·01	·04	·05	·03		·04	·04	·04	·03	·07	·05	·02	·04	..		·04	·03	·03	·03
16	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
17	·02	..	·01	..	·03	·02	·01	·03	·01	·02	·02		·02	·02	·02	..	..	..	..	·02	..		·03	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
24	·13	·14	·12	·15	·13	·12	·12	·08	·13	·13	·13		·10	·13	·13	·10	·13	·09	·08	·11	·08		·12	·10	·10	·09
25	·08	·03	·11	·23	·13	·12	·13	·12	·11	·13	·08		·05	·10	·09	·09	·10	·06	·06	·02	·05		·10	·12	·11	·11
26	·06	·02	..	·05	·28	·30	·25	·30	·25	·23	·15		·12	·14	·07	..	·16	·10	·10	·22	·24		·10	·03	·06	·05
27	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
29	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
30	..	..	..	..	..	·01	·01	·01	..	..	..		..	..	·13	..	·03	·02	·01	..	·02		..	..	..	..
*	·82	·70	·64	·94	1·37	1·22	1·19	1·31	1·11	1·14	·87		·83	·89	1·03	·76	1·09	1·14	1·01	1·17	1·09	·71	·98	·90	·90	·92
†	17·06	16·35	15·48	16·04	14·18	13·82	15·63	15·24	13·49	15·81	14·50		15·09	15·71	16·40	15·02	15·64	15·30	10·99	15·83	13·37	15·34	17·00	14·96	14·82	13·79

RECORD CEASED.

MONTHLY GAUGE.

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew. Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim. Bn.)	Croydon (Wn. N. rd.)	Croydon (Dup. H.)	Croydon (Wdml. rd.)	Croydon (Park Hill)	Croydon (Ashbn. rd.)	Croydon (Avond rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump. St.)	West Wickham	Hayes	Orpington	Farming-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·19	·86	·12	·80	·73	·10	·38	·27	·28	·44	·47	·31	·30	·24	·23	·21	·12	·26	·36	·18	·28	·17	·21	·13	·12	·08
2	·04	·02	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	·13	·18	·19	·15	·16	·10	·10	·09	·09	..	·12	·11	·10	·11	·12	·10	·10	·12	·14	·15	·18	·17	·13	·14	·21	·26
10	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	·04	..	..	..	·01	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	·01	..	..	..	·01	..	·01	..	..	·02	..	..	..	..	·02	..	..	..	·01	·01	·02	·01	..	..	·01	·02
14	·23	·26	·24	·25	·02	·26	·22	·22	·21	·23	·24	·24	·22	·24	·23	·21	·21	·22	·25	·22	·25	·24	·25	·25	·28	·29
15	·04	..	·04	·01	..	·03	·01	..	..	..	·01	·01	..	·01	·01	·01	·01	·01	·03	·01	·03	·02	..	·02	·02	·03
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	·02	·05	..	..	..	..	..	·01	·01	..	·02	·01	·02	·01	·01	·01	..	..	..	·02	·02	·02	·02	·03	..	·02
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	·11	·12	·12	·12	·10	..	·11	·11	·11	·12	·12	·12	·12	·12	·12	·11	·10	·11	·12	·11	·11	·11	·10	·07	·09	·08
25	·04	·15	·29	·02	..	..	·05	·07	·06	·04	·05	·03	·05	·04	·03	·12	·07	·13	·05	·03	·04	·04	·10	·14	·12	·05
26	·12	·19	·19	·12	·11	·12	·04	·04	·03	·04	·04	·04	·02	·03	·03	·03	·03	·05	·04	·03	·06	..	·04	·17	·15	·06
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
*	·97	1·83	1·19	1·49	1·14	·62	·92	·81	·80	·89	1·07	·87	·83	·80	·80	·80	·64	·90	1·00	·77	·99	·79	·85	·95	1·00	·89
†	16·75	16·38	14·40	13·61	12·55	14·93	12·93	12·64	11·93	13·11	13·24	13·07	11·35	12·73	12·70	12·01	12·14	13·59	14·81	13·27	15·00	14·19	13·39	13·54	12·42	12·16

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for June is 1·94 ins.* **June, 1904.**

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew.Wks.)	Wimbledon (TheDowns)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew.Wks.)	Kingston (CountyH.)	Richmond	Putney Heath	Wandswth. Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·18	·11	·20	·20	·17	·26	·41	·16	·38	·03	·17	·28	·24	·22	·18	·09	·21	·10	·12	·21	·19	·34	·18	·13		·17
2	..	..	..	..	..	..	..	..	..	..	·68	..	·01	·01	..	..	..	..	..	..	..	..	..	..		..
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
6	..	..	..	..	..	·01	..	..	..	..	..	·02	..	..	..	..	..	..	..	·02	..	..	..	..		..
7	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
9	·27	·14	·12	·10	·14	·11	..	·11	·10	·08	·07	·06	·06	·06	·06	·09	·06	·13	·10	·07	·10	·07	·06	·09		·10
10	..	..	..	..	..	..	·10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			..
11	..	..	..	..	..	·01	..	..	..	..	..	·01	..	..	..	·01	..	..	..	..	..	..	..	·01		·01
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
13	·01	..	·01	·01	·02	·02	..	·01	..	..	..	..	·02	..	·01	..	·01	·04	·02	·01	·02	·04	·01	..		·01
14	·26	·22	·23	·23	·23	·22	·19	·23	·23	·21	·22	·25	·26	·24	·19	·21	·12	·22	·21	·27	·24	·25	·25	·24		·23
15	·02	..	..	..	·02	..	..	..	..	..	..	·01	·01	·01	..	..	..	..	·01	·01	·02	..	·01	..		..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
17	·01	..	·02	·02	·02	·02	..	·02	..	·01	..	..	·01	..	..	·01	..	..	..	..	..	..	..	..		..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
24	·06	·07	·10	·10	·10	·12	..	·16	·12	·13	·17	·19	·18	·15	·15	·13	·05	·18	·16	·23	·20	·14	·15	·16		·14
25	·05	·13	·12	·09	·12	·11	·18	·17	·06	·12	·15	·13	·12	·12	·09	·05	·03	·06	·10	·12	·09	·06	·10	·12		·09
26	·01	·09	·10	·16	·20	·11	·06	·08	·03	·06	·03	·03	·02	·03	·07	·04	·05	·07	·08	·03	·04	·01	·02	·03		·07
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
*	·87	·76	·90	·91	1·02	·99	·95	·94	·92	·64	1·49	·98	·93	·84	·75	·63	·53	·80	·80	·97	·90	·91	·78	·78		·82
†	10·32	11·18	12·09	11·80	12·32	12·11	9·36	12·20	12·01	12·50	9·70	10·91	10·94	10·64	8·09	11·03	10·47	10·53	10·35	11·27	11·07	10·61	10·18	10·38		10·36

RECORD CEASED.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for June is 1·94 ins.* **June, 1904.**

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sidcup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·23		·28	·28	·13	·14	·25	·24	·14	·25	·18	·15	·19	·10	·14	·30	·11	·18	·12
2	..		..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..
3	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	..		..	..	..	..	..	..	..	..	..	..	..	·04	..	..	..	..	..
7	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	·11		·10	·09	·17	·21	·23	·31	·15	·07	·12	·09	·10	·09	·06	·10	·11	·11	·08
10	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..		..	..	·02	·02	·01	·03	·01	..	..	..	..	..	..	..	·01	·01	..
14	·25		·23	·24	·23	·22	·23	·17	·23	·20	·29	·25	·26	·25	·20	·26	·24	·23	·24
15	..		..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..
16	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	·02		·02	·02	·02	..	..	·01	·01	..	..	..	·01	..	..	..	·02	·01	..
18	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	·12		·13	·13	·10	·07	·07	·05	·10	·10	·17	·13	·17	·11	·07	·14	·11	·10	·11
25	·14		·04	·03	·05	·10	·15	·01	·08	·01	..	·01	·11	·04	·06	..	·06	·06	·02
26	..		·10	·05	·05	·05	·04	..	·15	·10	·04	·03	·02	·14	·13	·20	·04	·04	·02
27	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
*	·87	·90	·90	·84	·77	·81	·98	·84	·87	·73	·80	·66	·86	·77	·66	1·00	·70	·74	·59
†	11·41	11·33	10·49	10·38	11·17	10·31	10·21	6·28	11·22	7·31	11·44	9·49	11·05	10·57	7·08	9·94	10·22	9·25	8·59

MONTHLY REPORT.

* The figures in this row give the totals for the month. † The totals from January 1st.

NOTES.

(June, 1904.)

The month has been very dry, and also cool, though the sunlight is rather above the average. Both the day and night temperatures have been below the average. The thunderstorm on the 1st was general throughout the district, and was especial heavy about D'Abernon Chase and Oxshott. The hay crop has been a good one, and has been got in in splendid order. On the 29th, at Greenwich, there was observed "a solar halo with parhelia and brightly-coloured contact arch and portion of another halo of 45° radius between 5 and 5.30 p.m." The fruit crops are not turning out well. The dog-rose flowered at Beckenham on the 11th, and the lime at Sidcup on the 30th. Diphtheria and scarlet fever were rather less prevalent than usual. The month as a whole has been a healthy one. The rainfall is the smallest June fall since 1895. The mean temperature of the month is about 1½° below the average, and was at Chipstead 59°·1, at Croydon (Duppas House) 59°·0, at Worcester Park 58°·2, at Wallington 57°·6, and at Warlingham 56°·2. There were recorded at Wallington 218·4 hours of sunlight, which is 12·4 hours or two per cent. above the June average of the fifteen years 1886–1900.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for July is 2·41 ins.* **July, 1904.**

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	ReigateHill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (tower ga.)	Chevening Park	Sevenoaks	Chelsham	Warlingham	Kenley (Hazelea)	Kenley (Place Fell)	Sanderstead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	..	..		..	..	..	..	..	..		·02	..	·01	..	..	..	..	·02	..		..	..	·04	·03
2	·11	·10	·11	·10		·05	·05	·05	·05	·10	·08		·16	·12	·11	·07	·03	·03	·02	·04	·03		·13	·21	·25	·31
3	·23	·12	·33	·37		·28	·23	·10	·35	·47	·26		·12	·29	·32	·47	·26	·27	·24	·15	·18		·23	·13	·10	·04
4	..	..	..	..		..	..	·01	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
5	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
6	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
7	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
8	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
9	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
10	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
11	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
12	..	..	..	..		..	..	·01	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
13	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
14	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
15	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
16	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
17	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
18	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
19	·02	..	·05	·04		·04	·04	·01	·03	·02	·03		·04	·06	..	..	·03	·03	·02	·04	·10		·05	·03	·03	·03
20	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
21	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
22	·01	·02	·02	·02		..	..	·01	·01	·01	..		·01	..	·01	..	..	..	..	..	..		..	..	..	..
23	..	..	..	..		..	..	·01	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
24	..	..	..	..		..	..	·01	..	·01	..		..	..	..	..	..	..	..	..	..		..	..	..	..
25	·16	·22	·38	·25		·25	25	·19	·25	·29	·35		·38	·37	·38	·57	·52	·85	·83	·91	·85		·56	·58	·59	·63
26	·04	·03	·04	·10		·08	·08	·05	·07	·09	·08		·10	·07	·05	·03	..	..	..	..	·01		·04	·04	·08	·04
27	·06	·05	·05	·27		·09	·10	·26	·12	·12	·10		·15	·22	·23	·17	·24	·15	·14	·11	·06		·20	·25	·25	·23
28	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
29	·11	·10	·09	·11		·04	·04	·03	·05	·07	·05		·06	·05	·06	..	..	..	..	..	..		·07	·06	·10	·07
30	·24	·25	·33	·28		·13	·15	·09	·08	·11	·11		·13	·10	·13	·10	·17	·15	·14	·33	·22		·11	·10	·09	·09
31	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
*	·98	·89	1·40	1·54		·96	·94	·83	1·01	1·29	1·06		1·17	1·28	1·30	1·41	1·25	1·48	1·39	1·60	1·45	1·41	1·39	1·40	1·53	1·47
†	18·04	17·24	16·88	17·58		14·78	16·57	16·07	14·50	17·10	15·56		16·26	16·99	17·70	16·43	16·89	16·78	12·38	17·43	14·82	16·75	18·39	16·36	16·35	15·26

RECORD OMITTED.

RECORD CEASED.

MONTHLY GAUGE.

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew. Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim. Bn.)	Croydon (Wn.N. rd.)	Croydon (Dup. H.)	Croydon (Wdml. rd.)	Croydon (Park Hill)	Croydon (Ashbn. rd.)	Croydon (Avond rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump St.)	West Wickham	Hayes	Orpington	Farming-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·04	·06	·05	·15	·15	·18	·06	·08	·06	·06	·06	·04	·05	·04	·04	·06	·02	·03	·04	·03	·03	·01	..	·04	..	..
2	·19	·15	·12	·33	·30	·42	·26	·26	·25	·23	·33	·28	·25	·24	·24	·26	·25	·25	·32	·36	·34	·35	·52	·34	·31	·22
3	·22	·11	·09	·15	·15	·10	·04	·02	·02	·02	·05	·03	·02	·02	·02	·01	·01	·02	·04	·04	·13	·03	..	·02	·03	·05
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	·01	..	..	..	·02	·01	..	·01	..	..	..	·02
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	·04	..	·03	·03	·05	·03	·04	·02	·02	·02	·04	·03	·04	·04	·04	·04	·04	·05	·06	·03	·05	·03	·02	·04	·02	·05
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	·03	..	·04	..	·01	·01	·02	·03	·01	..	·02	..	..	..	·01	..	..	..	·01	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	·35	·35	·24	·35	·35	·43	·53	·51	·53	·55	·58	·54	·45	·50	·49	·52	·50	·53	·61	·51	·54	·57	·57	·65	·82	1·17
26	·13	·09	·08	·12	·15	·07	·07	·08	·07	·05	·05	·03	·03	·02	·03	·02	·01	·01	·03	·02	·01	·01	..	..	..	..
27	·15	·11	·09	·10	·06	·19	·39	·26	·26	·24	·21	·23	·12	·16	·15	·08	·20	·13	·27	·22	·12	·18	·10	·04	·03	·10
28	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	·08	·11	·08	·13	·15	·20	·10	·14	·13	·11	·11	·12	·10	·12	·12	·12	·10	·10	·09	·09	·11	·10	·11	·11	·01	..
30	·15	·19	·15	·20	·24	·16	·15	·16	·16	..	·15	·18	·15	·12	·11	·12	·07	·07	·08	·10	·11	·12	·12	·13	·05	·32
31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
*	1·38	1·17	·97	1·58	1·61	1·79	1·66	1·56	1·51	1·28	1·60	1·48	1·22	1·26	1·26	1·23	1·20	1·19	1·57	1·41	1·44	1·41	1·44	1·37	1·27	1·93
†	18·13	17·55	15·37	15·19	14·16	16·72	14·59	14·20	13·44	14·39	14·84	14·55	12·57	13·99	13·96	13·24	13·34	14·78	16·38	14·68	16·44	15·60	14·83	14·91	13·69	14·09

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for July is 2·41 ins.* **July, 1904.**

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew.Wks.)	Wimbledon (TheDowns)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew.Wks.)	Kingston (CountyH.)	Richmond	Putney Heath	Wandswth. Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	·02	·02	·02	·05	·02	·05	·06	·12	·05	·09	·09	·09	·12	·10	·10	·18	·14	·13	·18	·14	·09	·09		·07
2	·28	·31	·24	·24	·35	·24	·11	·22	·20	·33	·21	·23	·33	·22	·20	·34	·34	·43	·27	·31	·19	·45	·37	·29		·30
3	·02	..	·01	·02	·03	·03	·06	·05	·02	..	..	·01	..	·01	..	·03	·02	..	·02	..	·09	..	·01	..		·02
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
12	·02	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·02		·01
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
19	·03	·02	·03	·03	·03	·04	·04	·05	·02	·03	·04	·03	·03	·05	·03	·04	·05	·07	·03	..	·04	·07	·03	·05		·05
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
22	..	..	..	..	·01	..	..	..	·01	·01	..	·01	·01	..	..	..	..	..	·01	..	..	·01	..	..		·01
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
25	·82	·80	·71	·70	·73	·64	·54	·57	·51	·47	·60	·50	·57	·47	·38	·48	·31	·31	·39	·44	·41	·55	·59	·63		·52
26	..	·01	..	·01	..	..	·01	·01	·02	·04	·03	·04	·06	·05	·11	·14	·23	·32	·16	·14	·13	·12	·05	·04		·03
27	·12	·22	·27	·14	·05	·04	·03	·18	·25	·26	·22	·22	·25	·36	·18	·20	·22	·25	·19	·25	·31	·19	·13	·11		·08
28	..	..	..	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..		..
29	·01	·09	·14	·15	·10	·11	·07	·14	·12	·15	·16	·17	·20	·15	·12	·13	·15	·16	·18	·20	·19	·19	·20	·18		·15
30	·11	·13	·13	·13	·13	·09	·09	·12	·15	·15	·17	·18	·17	·17	·14	·17	·30	·43	·26	·33	·21	·30	·16	·16		·22
31	..	..	..	..	..	..	·04	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
*	1·41	1·58	1·55	1·44	1·45	1·25	1·03	1·39	1·36	1·56	1·48	1·48	1·71	1·57	1·28	1·63	1·72	2·15	1·65	1·80	1·75	2·02	1·64	1·5		1·46
†	11·73	12·76	13·64	13·24	13·77	13·36	10·39	13·59	13·37	14·06	11·18	12·39	12·65	12·21	9·37	12·66	12·19	12·68	12·00	13·07	12·82	12·63	11·82	11·95		11·82

RECORD CEASED.

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sideup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·05		·06	·06	·02	..	·01	..	·02	·04	·07	·06	·07	·08	·08	..	·03	·03	·06
2	·27		·26	·24	·18	·22	·26	·12	·14	·29	·25	·15	·25	·40	·29	·32	·30	·26	·25
3	·03		·02	·01	·08	·02	·15	·11	·06	..	·04	·14	..	..	..	..	..	..	..
4	..		..	..	..	..	..	·01	..	..	..	..	..	..	..	..	·01	·01	..
5	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	·01		..	·01	..	·02	·01	..	..	·01	·02	·03	·01	·02	..	..	..	·01	·01
13	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	·06		·06	·05	·04	·04	..	·02	·02	·03	·03	·05	·05	·03	·01	·04	·03	·04	·02
20	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..		..	·01	..	..	..	..	..	·01	·01	..	..	..	..	·02	·01	·01	..
23	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..
24	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·05
25	·64		·74	·83	1·27	·68	·78	..	1·20	1·09	·87	·73	·61	·78	·73	1·30	1·55	1·31	1·38
26	·02		·02	·02	·01	..	..	..	·02	·02	·03	·05	·04	·08	·03	·04	·02	·02	·02
27	·04		·06	·08	·13	·24	..	1·00	·12	·04	·06	·08	·07	·02	·01	·05	·04	·03	..
28	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	·15		·14	·15	·09	·01	·02	..	·14	·15	·19	·15	·17	·18	·14	·20	·15	·15	·14
30	·12		·10	·09	·11	·25	·15	..	·15	·10	·20	·16	·19	·20	·05	·11	·08	·10	·20
31	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
*	1·39	1·13	1·46	1·55	1·93	1·48	1·38	1·26	1·87	1·78	1·77	1·60	1·46	1·79	1·34	2·08	2·23	1·97	2·13
†	12·80	12·46	11·95	11·93	13·10	11·79	11·59	7·54	13·09	9·09	13·21	11·09	12·51	12·36	8·42	12·02	12·45	11·22	10·72

MONTHLY REPORT.

* The figures in this row give the totals for the month. † The totals from January 1st.

NOTES.

(July, 1904.)

An exceedingly warm and also a dry month. With the exceptions of July, 1899 and 1900, the mean temperature is the highest for July for a great many years. There was an absolute drought between the 3rd and the 19th in many places. The thunderstorm of the 25th was felt all over the district, and was especially severe in the London area. The month has been a healthy one. The dry hot weather has brought forward the corn crops, and the corn harvest began about Abinger on the 29th. Potato disease and the celery-fly are rather bad in parts of the district. The observer at Ashburton Road, Croydon, reports the somewhat rare phenomenon of a "vertical lunar bar" on the 22nd. A solar halo with parhelia was seen at Greenwich on the 31st, and a lunar one with paraselenæ at Greenwich and Croydon (Ashburton Road) on the 24th. The rainfall varies in amount from the mean to about one-half the mean. The mean temperature is about 3° above the average, and was at Croydon (Duppas House) 66°·1, at Chipstead 65°·5, at Wallington 65°·1, at Worcester Park 65°·0, and at Warlingham 63°·6. There were recorded at Wallington 278·7 hours of sunlight, which is 68·6 hours or 14 per cent. above the July average of the fifteen years 1886–1900, and has only been exceeded in 1887 and 1900.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for August is 2·31 ins.* **August, 1904.**

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	ReigateHill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (tower ga.)	Chevening Park	Sevenoaks	Chelsham	Warlingham	Kenley (Hazelea)	Kenley (PlaceFell)	Sanderstead
	IN.	IN.	IN.	IN.		IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
2	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
3	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
4	·29	·26	·29	·23		·12	·12	·10	·15	·19	·09		·12	·10	·11	·13	·19	·18	·16	..	·09		·10	·08	·09	·07
5	·02	·02	·01	..		..	..	·01	..	·01	..		·02	..	·01	..	..	..	..	..	..		..	..	..	..
6	..	..	..	·03		·01	·02	·01	..	·03	..		..	·02	..	·01	..	..	..	..	..		..	..	..	..
7	..	..	·02	..		·01	·01	·01	·01	·02	..		·02	..	·03	..	·02	·03	·02	..	..		·01	·01	..	·01
8	..	..	..	..		..	..	..	..	..	..		..	..	..	·02	..	..	..	..	..		..	..	..	..
9	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
10	·02	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
11	·26	·22	·23	·19		·21	·21	·26	·14	·15	·18		·11	·11	·13	·13	·18	·12	·11	·16	·22		·12	·12	·10	·08
12	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
13	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	·07	..		..	..	..	..
14	·06	·04	·04	·05		·10	·10	·08	·08	·08	·08		·03	·08	·10	·08	·11	·09	·07	·21	·07		·09	·03	·09	·03
15	..	·03	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
16	·36	·36	·35	·32		·22	·22	·24	·13	·28	·21		·24	·30	·30	·17	·17	·10	·09	·03	·17		..	·26	..	·19
17	·10	·08	·08	·09		·17	·17	·10	·23	·09	·15		·13	·06	·10	..	·11	·22	·20	·26	·14		·33	·06	·30	·11
18	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
19	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
20	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
21	..	..	..	..		·01	·01	·05	..	·02	..		..	..	·01	·01	..	..	..	..	·01		..	..	..	..
22	·24	·27	·25	·20		·14	·14	·27	·18	·15	·12		·14	·10	·13	·17	·19	·29	·31	·27	·43		·10	·13	·12	·15
23	..	..	..	·07		·02	·02	·03	·03	·04	·04		·04	·04	·04	..	..	..	..	·04	·09		·81	·02	..	..
24	..	..	..	..		..	..	..	·04	..	..		..	..	..	..	..	..	..	..	..		·06	·01	..	·01
25	·10	·10	·07	·05		·02	·02	·01	..	·05	·04		·05	·05	·06	·09	·06	·13	·04	..	·04		..	..	·03	·02
26	..	..	..	..		..	..	..	..	..	..		..	..	·01	..	..	..	..	·06	..		·05	..	..	..
27	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
28	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
29	..	..	..	..		..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
30	·03	·03	·04	·04		·04	·05	·03	·02	·05	·03		·04	·04	·06	·07	..	..	..	..	·08		..	..	·03	·05
31	·61	·58	·71	·60		·54	·53	·40	·56	·64	·57		·66	·63	·69	·24	·64	·75	·66	·76	·55		·81	·78	·80	·81
*	2·09	1·99	2·09	1·87		1·61	1·62	1·60	1·57	1·80	1·51		1·60	1·53	1·78	1·12	1·67	1·91	1·66	1·86	1·89	1·64	2·48	1·50	1·56	1·53
†	20·13	19·23	18·97	19·45		16·39	18·19	17·67	16·07	18·90	17·07		17·86	18·52	19·48	17·55	18·56	18·69	14·04	19·29	16·71	18·39	20·87	17·86	17·91	16·79

RECORD OMITTED.

RECORD CEASED.

MONTHLY GAUGE.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for August is 2·31 ins.* **August, 1904.**

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew.Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim. Bn.)	Croydon (Wn.N.rd.)	Croydon (Dup. H.)	Croydon (Wdml.rd.)	Croydon (Park Hill)	Croydon (Ashbn.rd.)	Croydon (Avond rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump.St.)	West Wickham	Hayes	Orpington	Farming-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..	..	..	..	..	..	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	·11	·11	·19	·23	·24	·12	·11	·12	·11	·15	·13	·11	·10	·08	·08	·09	·06	·07	·09	·08	·09	·10	·08	·10	·16	·10
5	·09	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..
6	·03	..	·02	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	·01	·01	·01	·01	·01	..	..	..	..
7	..	..	..	..	..	..	·01	·01	·02	·02	·02	·02	·01	·01	·01	..	·01	·01	·02	·01	·02	·01	..	..	..	..
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01
9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	·10	·24	·14	·17	·14	·15	·07	·10	·09	·08	·08	·07	·06	·06	·07	·07	·06	·07	·09	·07	·09	·09	·08	·12	·06	·11
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	·03	·03	·02	·04	·03	·03	·02	·02	·01	·02	·03	·02	·02	·02	·02	·01	·02	·02	·03	·03	·04	·04	·02	·05	·07	·08
15	..	..	..	..	..	..	..	·02	·02	·02	..	..	·01	..	·01	·03	·01	·02	·01	·01	..	..	..	..	·01	..
16	·04	·29	·31	·30	·28	·26	·22	·28	·09	·17	·24	·23	·18	·24	·22	·21	·21	·09	·21	·20	·14	·20	·17	·20	·17	·14
17	·31	·09	·07	·08	·10	·07	·09	·05	·25	·16	·10	·09	·10	·07	·09	·09	·08	·20	·09	·10	·20	·12	·12	·10	·11	·16
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	·18	·11	·16	·15	·16	·12	·36	·14	·30	·20	·06	·17	·24	·20	·20	·08	·07	·07	·33	·08	·12	·10	·08	·22	·33	·22
23	·04	·13	·05	..	·01	·01	·01	..	·01	·02	..	·01	..	..	·01	..	·01	·01	·01	·01	..	·01	..	·02	..	·13
24	·04	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	·01	·01	·02	..	·01	..	·01	..	..
25	·06	..	·02	..	..	·03	..	..	..	..	..	..	..	..	·01	..	·01	..	·02	·01	·01	·01	..	..	..	..
26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	·08	·06	·06	·03	·03	·04	·05	·07	·17	·05	·05	·05	·04	..	·06	..	·06	·01	·06	·06	..	·08	..	..	·05	·04
31	·76	·80	·68	·78	·75	·81	·83	·78	·75	·80	·83	·83	·82	1·00	·87	1·00	·95	1·00	·84	·94	1·00	·92	1·02	·83	·67	·56
*	1·87	1·86	1·74	1·78	1·74	1·64	1·77	1·59	1·83	1·71	1·54	1·60	1·59	1·68	1·66	1·58	1·55	1·59	1·82	1·64	1·72	1·70	1·57	1·65	1·63	1·55
†	20·00	19·41	17·11	16·97	15·90	18·36	16·36	15·79	15·27	16·10	16·38	16·15	14·16	15·67	15·62	14·82	14·89	16·37	18·20	16·32	18·16	17·30	16·40	16·56	15·32	15·64

* The figures in this row give the totals for the month.

† The totals from January 1st.

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for August is 2·31 ins.* **August, 1904.**

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew.Wks.)	Wimbledon (TheDowns)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew.Wks.)	Kingston (CountyH.)	Richmond	Putney Heath	Wandswth. Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
4	·06	·07	·08	·07	·09	·07	·05	·07	·12	·12	·12	·14	·16	·13	·18	·17	·16	·24	·18	·20	·19	·21	·15	·15		·12
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
6	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
7	·01	..	..	·01	·02	·02	..	..	·01	·01	..	..	..	..	..	·01	..	..	..	..	..	..	..	..		·01
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
11	·17	..	·09	·08	·07	·05	·04	·08	·07	·09	·10	·13	·14	·11	·13	·13	·10	·12	·12	·14	·18	·12	·12	·10		·08
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
14	·07	·01	·01	·01	·03	·03	·01	·03	·01	·02	·04	·04	..	·03	·03	·04	·03	..	·04	..	·04	·02	·02	·03		·03
15	·01	..	..	..	·02	·01	..	..	·02	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..		·01
16	·14	·15	·18	·20	·19	·20	..	·24	·24	·08	·25	·27	·36	·32	·30	·32	·27	·21	·27	·30	·10	·20	·19	·14		·35
17	·14	·11	·11	·11	·10	·10	·31	·09	·10	·33	·11	·10	·12	·09	·10	·09	·09	·12	·11	·07	·28	·10	·13	·21		·10
18	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
21	..	..	·02	·03	·03	..	..	..	..	..	..	·01	..	·01	·04	·03	..	·04	·09	·03	·06	·09	·03	·01		..
22	·29	·16	·19	·10	·20	·09	·04	·15	·09	·20	·18	·23	·40	·17	·10	·12	·15	·11	·17	·24	·22	·17	·48	·20		·11
23	·10	..	..	..	·02	·01	·01	·02	..	·01	·02	·01	·02	·02	..	·01	·01	·01	..	·01	..	..	·02	·02		·02
24	..	..	..	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		·01
25	..	..	..	..	..	·02	·01	·03	..	..	·01	·02	·01	·01	..	..	..	..	·01	·01	..	·01	·01	·01		·01
26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
30	·05	·83	·04	..	·03	·03	..	..	..	·05	·30	·06	·05	·07	·03	·07	·01	..	·02	·03	..	..	·04	..		..
31	·56	·14	·83	·77	·75	·77	·35	1·01	·96	·81	·84	·98	·96	·92	·83	·78	·61	·74	·81	·93	·87	·96	·90	·88		·93
*	1·60	1·47	1·55	1·38	1·55	1·42	·84	1·72	1·62	1·72	1·97	2·00	2·22	1·88	1·74	1·77	1·43	1·59	1·82	1·96	1·94	1·88	2·09	1·75		1·78
†	13·33	14·23	15·19	14·62	15·32	14·78	11·23	15·31	14·99	15·78	13·15	14·39	14·87	14·09	11·11	14·43	13·62	14·27	13·82	15·03	14·76	14·51	13·91	13·70		13·60

RECORD CEASED.

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall *The sixty years (1841–1900) average at Greenwich for Aug. is 2·31 ins.* **August, 1904.**

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sidcup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	·07		·06	·06	·09	·08	·07	·02	·05	·03	·12	·17	·15	·15	·10	·04	·06	·05	·03
5	..		..	..	..	..	..	·04	..	..	..	..	..	..	..	..	..	..	..
6	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..		..	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..
8	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..		..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..
11	·09		·05	·06	·09	·07	·08	·06	·07	·04	·08	·08	·11	·08	·05	·06	·06	·04	·05
12	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	·03		·03	·03	·01	·03	..	..	·02	·02	..	·03	·04	·02	·01	·04	·03	·02	·02
15	..		..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..
16	·23		·11	·25	·14	·14	·20	..	·18	·23	·38	·09	·30	·28	·18	·22	·24	·19	·27
17	·18		·28	·15	·15	·15	·10	·17	·14	·10	·12	·24	·07	·08	·10	·18	·11	·15	·06
18	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..		..	·01	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..
20	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..		·01	·05	..	..	..	..	..	·01	..	·01	..	·04	·05	·06	·09	·10	·07
22	·10		·06	·04	·16	·22	·20	·17	·16	·03	·08	·25	·23	·29	·16	·05	·12	·03	·02
23	·03		..	..	..	·01	·02	·02	..	..	..	·02	·01	·04	·02	..	·01	·01	..
24	·02		·04	·05	..	..	..	..	..	·03	·01	..	·03	..	..	..	..	..	·01
25	·02		·01	·01	..	..	..	..	..	..	..	·01	·01	·01	..	..	..	..	..
26	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	·05		..	·02	·06	·01	..	..	·03	..	..	..	·02	·06	..	..	·04	..	..
31	·86		·88	·89	·78	·62	·63	·49	·81	·56	1·03	·81	·83	·82	·74	·79	·70	·79	·75
*	1·68	1·58	1·53	1·62	1·48	1·33	1·32	·97	1·47	1·05	1·83	1·71	1·81	1·87	1·41	1·44	1·46	1·38	1·28
†	14·48	14·04	13·48	13·55	14·58	13·12	12·91	8·51	14·56	10·14	15·04	12·80	14·32	14·23	9·83	13·46	13·91	12·60	12·00

MONTHLY REPORT.

* The figures in this row give the totals for the month. † The totals from January 1st.

NOTES.

(August, 1904.)

The month has been dry, in fact it is the driest August since 1899, and fairly warm, though the nights have been somewhat cold; the observer at Abinger Hall even reporting frosts on the 11th, 20th, and 24th. There was a thunderstorm on the 4th throughout the district, and a slight one in places on the 22nd. Many solar and lunar halos were seen at Greenwich, and a solar one was observed at Upper Gatton and Sutton on the 1st, and at Upper Gatton on the 3rd. The swallows left Nutfield on the 27th. A double rainbow was seen at Sanderstead on the 14th. The month, as a rule, has been a fairly healthy one, though there have been cases of diphtheria and scarlet fever, and some small-pox cases in Croydon and the neighbourhood. Apples and plums have been a fairly good crop. The mean temperature of the month has been slightly above the average, and was at Croydon 62°·7, at Chipstead 62°·3, at Wallington 61°·6, at Worcester Park 61°·5, and at Warlingham 60°·5. There were recorded at Wallington 242·6 hours of sunlight, which is 44·3 hours or 10 per cent. above the August average of the fifteen years 1886–1900, and has only been exceeded in 1887 and 1899. The sunlight on the 3rd, *viz.* 14·2 hours, is the highest daily value for August in my record.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	ReigateHill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (tower ga.)	Chevening Park	Sevenoaks	Chelsham	Warlingham	Kenley (Hazelea)	Kenley (Place Fell)	Sanderstead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·02	·01	·01	..	·04	·04	·03	·02	·04	·03	·06		·08	·07	·09	·30	·12	·14	·13	·14	·11		·12	..	·10	·11
2	·13	·14	·13	·15	·08	·07	·08	·09	·07	·11	·09		·09	·09	·11	..	·12	·14	·13	·13	·11		·12	..	·09	·09
3	·19	·20	·09	·08	·12	·14	·15	·18	·09	·07	·08		·10	·05	·07	·15	·17	·18	·10	·15	·15		·09	·17	·08	·05
4	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
5	·02	..	·01	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	·02		..	..	..	..
6	·34	·33	·31	·30	·21	·22	·23	·18	·19	·19	·19		·20	·20	·20	·28	·26	·25	·22	·24	·25		·22	·16	·16	·16
7	·20	·18	·11	·20	·15	·12	·13	·14	·13	·15	·14		·15	·16	·14	·11	·14	·09	·09	·02	·18		·14	..	·14	·12
8	·16	·20	·25	·15	·10	·09	·09	·07	..	·11	·10		·13	·09	..	·10	·07	·15	·11	·19	·07		·10	·24	·12	·11
9	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
11	..	..	..	..	..	..	..	..	·13	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
12	·10	·12	·13	·13	·08	·07	·07	·06	·09	·09	·08		·07	·17	·07	·04	·06	·09	·06	·06	·06		·07	·05	·06	·05
13	..	..	..	..	..	..	..	..	..	..	·10		..	..	..	..	..	..	..	..	..		..	..	..	..
14	·31	·18	·19	·21	·26	·39	·41	·43	·21	·22	·03		·25	·25	·26	·36	·47	·32	·30	·33	·31		·34	·24	·23	·18
15	..	..	..	..	·01	..	..	·01	..	·01	·14		·01	..	..	..	..	..	..	..	..		..	..	..	..
16	..	..	..	..	..	..	·01	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
22	·14	·08	·06	·07	·10	·15	·19	·12	·11	·09	·12		·10	·13	·14	·18	·20	·18	·18	..	·19		·13	..	·10	·08
23	·09	·07	·09	·11	·05	·05	·05	·02	·06	·08	·06		·07	·05	·07	·02	·01	·02	·02	·03	·03		·08	·18	·11	·10
24	·04	·08	·09	·13	·02	·09	·06	·01	·04	·01	·06		..	·04	·04	·16	·20	·32	·34	·11	·21		·04	..	·01	..
25	..	..	..	..	..	..	..	..	..	..	..		·01	..	..	..	..	..	..	..	..		..	..	..	..
26	..	..	..	..	..	..	..	..	..	..	..		..	..	..	·04	·07	·02	·02	·08	..		..	..	..	..
27	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
28	..	..	..	..	..	..	·01	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
29	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
30	·30	·35	·35	·33	·21	·17	·25	·20	·21	·29	·24		·32	·26	·27	·18	·20	·27	·10	·11	·17		·26	·18	·23	·20
*	2·04	1·94	1·82	1·86	1·43	1·60	1·76	1·53	1·37	1·45	1·49		1·58	1·56	1·46	1·92	2·09	2·17	1·80	1·59	1·86	1·36	1·71	1·22	1·43	1·25
†	22·17	21·17	20·79	21·31	18·31	17·99	19·95	19·20	17·44	20·35	18·56		19·44	20·08	20·94	19·47	20·65	20·86	15·84	20·88	18·57	19·75	22·58	19·08	19·34	18·04

RECORD CEASED.

MONTHLY GAUGE.

* The figures in this row give the totals for the month.

† The totals from January 1st.

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew.Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim. Bn.)	Croydon (Wn.N.rd.)	Croydon (Dup. H.)	Croydon (Wdml.rd.)	Croydon (Park Hill)	Croydon (Ashbn.rd.)	Croydon (Avond rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump.St.)	West Wickham	Hayes	Orpington	Farming-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·09	·04	·02	·03	..	..	·05	·06	·10	·08	·10	·10	·10	·10	·11	·13	·10	·13	·13	·12	·15	·12	·15	·18	·14	·09
2	·11	·09	·03	·10	·10	·14	·14	·08	·10	·09	·10	·09	·10	·08	·09	·10	·08	·09	·11	·11	·11	·10	·10	..	·10	·12
3	·12	·07	·09	·08	·08	·12	·17	·12	·12	·12	·16	·11	·09	·11	·11	..	·08	·07	·18	·13	·14	·10	·18	·12	·07	·03
4	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	·01
6	·17	..	·19	·30	·30	·16	·12	·13	·14	·13	·14	·16	·15	·16	·15	·22	·14	·17	·17	·18	·22	·21	·24	·22	·22	·23
7	..	·30	·16	·15	·16	·15	·11	·12	·22	·07	·16	·18	·15	·12	·13	·15	·10	·09	·15	·13	·05	·16	·20	·15	·11	·25
8	·29	·16	·13	·14	·09	·15	·10	·11	·05	·15	·11	·10	·38	·10	·10	·09	·08	·11	·11	·10	·22	·11	·05	·08	·07	·07
9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	·10	·13	·10	·09	·08	·08	·04	·07	·09	·05	·04	·04	·03	·05	·03	·02	·02	..	·04	·05	·04	·07	·06	·05	·02	·04
13	..	..	..	..	..	..	..	..	..	·03	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	·17	·26	·19	·25	·28	·18	·12	·10	·15	·13	·17	·15	·14	·16	·16	·14	·15	·15	·19	·08	·21	·21	·20	·18	·25	·15
15	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	·01
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	·01	..	..	..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	·08	·08	·06	·02	·02	·07	·03	·02	..	·03	·04	·04	·04	·08	·05	·04	·04	·05	·07	·08	·09	·09	..	·09	·10	·11
23	·10	·12	·13	·15	·12	·11	·12	·14	·10	·13	·12	·09	·09	·09	·09	·08	·07	·08	·09	·09	·08	·07	·15	·07	·04	·02
24	·01	·01	·07	·06	·03	..	·07	·09	·31	·12	·02	·01	·01	·02	·02	·01	·01	·02	·02	·02	·04	·03	·03	·05	·07	·15
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	·01
26	..	..	..	..	..	..	..	..	..	·01	·05	..	..	..	..	..	..	..	..	·01	..	..	..	..	·01	·02
27	..	..	..	..	..	..	·02	..	..	..	·01	..	..	..	..	..	..	·01	..	·01	..	..	..	..	..	·01
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..
30	·25	·27	·24	·18	·18	·26	·14	·13	·10	·11	·15	·16	·10	·16	·16	·13	·12	·13	·20	·16	·16	·18	·13	·14	·13	·12
*	1·51	1·53	1·41	1·57	1·44	1·42	1·23	1·17	1·48	1·25	1·38	1·23	1·38	1·23	1·21	1·11	·99	1·11	1·47	1·30	1·51	1·45	1·49	1·33	1·33	1·44
†	21·51	20·94	18·52	18·54	17·34	19·78	17·59	16·96	16·75	17·35	17·76	17·38	15·54	16·90	16·83	15·93	15·88	17·48	19·67	17·62	19·67	18·75	17·89	17·89	16·65	17·08

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for September is 2·18 ins.* **September, 1904.**

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew. Wks.)	Wimbledon (The Downs)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew. Wks.)	Kingston (County H.)	Richmond	Putney Heath	Wandsworth Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·09	·08	·16	·17	·16	·15	·60	·15	·11	·04	·08	·07	·08	·06	..	·04	·02	·01	·02	·03	·04	·04	·08	·16	RECORD CEASED.	·16
2	·05	..	·08	·09	·09	·09	..	·14	·08	·07	·08	·07	·08	·07	·10	·08	·07	·08	·07	·08	·07	·09	·09	·10		·10
3	·08	·01	·03	·03	·03	·04	·10	..	·09	..	·06	·04	·07	·05	·12	·11	·05	·26	·09	·17	·12	·01	·02	·02		·06
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
5	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	·01	..	..	..	..	..	..		..
6	·29	·22	·24	·22	·23	·18	·14	·14	·15	·12	·11	·14	·16	·13	·17	·14	·22	·22	·25	·25	·24	·24	·15	·13		·16
7	·14	·13	·13	·11	·14	·12	..	·15	·13	·11	·09	·15	·16	·12	·10	·11	·14	·16	·11	·14	·12	·16	·15	·11		·10
8	·04	·15	·05	·07	·07	·07	·16	·09	·08	·10	·10	·11	·09	·12	..	·13	·12	·13	·11	·11	·11	·11	·09	·13		·09
9	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..		..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
12	·03	·02	·04	·04	·04	·04	·03	·03	·03	·05	·06	·07	·08	·06	·04	·05	·07	·15	·06	·08	·07	·15	·09	·05		·03
13	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..		..
14	·10	·15	·18	·18	·17	·18	·12	·15	·10	·12	·17	·17	·31	·19	·09	·12	·15	·21	·09	·22	·15	·17	·24	·17		·19
15	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	·02	..	..	..	..	..	..	..		..
16	..	..	..	..	..	..	·01	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
22	·06	·08	·08	·07	·09	·06	..	·05	·01	·01	..	..	·01	..	·17	..	..	..	..	..	..	..	..	..		·01
23	·02	..	·06	·08	·07	·08	·08	·10	·18	·05	·09	·12	·15	·12	·02	·13	·10	·13	·10	·13	·17	·17	·15	·12		·17
24	·15	·04	·03	·03	·04	·01	·04	..	·11	·13	·05	·03	..	·03	..	·04	·03	·04	·03	·03	·04	·07	·02	·03		·15
25	..	..	..	..	..	..	..	·02	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	·01		..
26	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
27	·01	..	..	..	..	..	·01	·01	..	·01	..	..	·01	..	..	..	..	..	..	..	..	..	..	..		·01
28	..	..	..	..	..	..	·01	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
30	·07	·08	·09	·09	·10	·10	·02	·12	·11	·11	·10	·15	·15	·14	·11	·14	·12	·10	·15	·17	·16	·15	·13	·12		·10
*	1·14	·96	1·17	1·18	1·23	1·12	1·32	1·15	1·18	·96	·99	1·12	1·38	1·09	·92	1·09	1·12	1·50	1·08	1·41	1·29	1·36	1·21	1·15		1·33
†	14·47	15·19	16·36	15·80	16·55	15·90	12·55	16·46	16·17	16·74	14·14	15·51	16·25	15·18	12·03	15·52	14·74	15·77	14·90	16·44	16·05	15·87	15·12	14·85		14·93

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sidcup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·16		·19	·15	·14	·09	·08	·08	·18	·11	·16	·16	·14	·11	·10	·11	·14	·13	·07
2	·10		·10	·10	·08	·12	·10	·08	·08	·07	·11	·07	·09	·09	·06	·10	·10	·08	·08
3	·05		·04	·06	·02	·01	..	·01	·04	..	·03	·04	·04	·02	..	·05	·03	·03	..
4	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01
6	·17		·16	·16	·22	·21	·10	·15	·21	·13	·18	·13	·15	·12	·08	·16	·15	·12	·12
7	·12		·03	·12	·14	·15	..	..	·12	·15	·11	·14	·11	·19	·11	·14	·16	·12	·11
8	·09		·16	·06	·06	·04	·03	·08	·06	·04	·10	·10	·02	·06	·06	·09	·05	·04	·02
9	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	·05		·05	·05	·05	·04	·05	..	·05	·03	·04	·06	·07	·08	·05	·06	·04	·03	·04
13	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	·18		·20	·25	·15	·14	·14	·04	·18	·15	·23	·14	·19	·16	·08	·19	·18	·16	·12
15	..		..	·01	..	..	..	..	·04	..	..	..	..	..	..	..	·02	·02	..
16	..		..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	·03		·02	·01	·07	·08	·08	·05	·05	..	..	..	·01	..	..	..	·01	..	..
23	·14		·15	·13	·08	·02	..	·01	·09	·10	·19	·11	·16	·16	·12	·11	·09	·14	·15
24	·17		·13	·12	·06	·08	·14	·05	·04	·09	·03	·05	·06	..	..	·10	·10	·13	·14
25	·01		..	·01	..	..	..	..	..	..	..	..	·01	·03	·01	..	..	..	..
26	..		..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..
27	..		..	·02	·02	..	..	..	·01	..	..	..	..	..	..	..	..	..	..
28	..		·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	·12		·10	·11	·09	·07	·06	·03	·10	·05	·13	·09	·14	·13	·08	·11	·11	·07	·09
*	1·39	1·88	1·34	1·36	1·19	1·06	·78	·58	1·25	·92	1·31	1·09	1·19	1·15	·75	1·22	1·18	1·07	·95
†	15·87	15·92	14·82	14·91	15·77	14·18	13·69	9·09	15·81	11·06	16·35	13·89	15·51	15·38	10·58	14·68	15·09	13·67	12·95

MONTHLY REPORT.

* The figures in this row give the totals for the month. † The totals from January 1st.

NOTES.

(September, 1904.)

The month has been dry and very cold. It has also been somewhat unhealthy, there having been many cases of influenza, and also in places scarlet fever and diphtheria. Gulls appeared at Nutfield on the 13th. The apple crop has been got in in good condition, and winter vegetation looks well. There were six ground frosts at Greenwich, but only one in the rest of the district, namely, on the night of the 20th–21st. Thunder was heard at Nutfield on the 24th, and a rainbow was seen there on the 14th, and one at Wallington on the 24th. At Greenwich solar halos with parhelia were seen on the 3rd and 28th, and a lunar one with paraselenæ on the 28th. The rainfall is nearly an inch below the average. The mean temperature of the month is about 2° below the average, and was at Chipstead 56°·9, at Croydon (Duppas House) 55°·9, at Worcester Park 55°·2, at Wallington 55°·0, and at Warlingham 54°·8. Fogs occurred on several days between the 15th and 28th. There were recorded at Wallington 180·1 hours of sunlight, which is 19·9 hours or 5 per cent. above the September average 1886–1900. The five days—17th to 21st—had a mean sunlight of over 91 per cent., and the amount 12·2 hours on the 5th has only been exceeded on Sept. 4th, 1899.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for October is 2·83 ins.* **October, 1904.**

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	ReigateHill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (tower ga.)	Chevening Park	Sevenoaks	Chelsham	Warlingham	Kenley (Hazelea)	Kenley (Place Fell)	Sanderstead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·03	·03	·01	·03	..	·06	·06	·05	·04	·05	·06	RECORD CEASED.	·03	·05	·07	·07	·03	·05	·03	·14	·07	MONTHLY GAUGE.	·06	·03	·04	·03
2	·47	·46	·51	·35	·34	·33	·34	·34	·29	·31	·31		·28	·30	·30	·32	·30	·32	·30	·28	·29		·30	·27	·30	·28
3	..	..	..	..	..	..	..	..	·02	..	..		·02	..	..	..	..	..	..	..	..		..	..	..	..
4	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
5	·19	·17	·15	·16	·14	·13	·13	·14	·12	·15	·15		·12	·15	·17	·17	·18	·15	·10	·18	·16		·18	·12	·13	·12
6	·67	·71	·71	·65	·52	1·22	1·22	·64	·64	·70	·77		·77	·81	·77	·81	·84	·61	·57	·45	·75		·69	·77	·80	·77
7	·10	·11	·10	·05	·30	·08	·06	·04	·18	·10	..		·04	·03	·06	·11	·18	·29	·27	·62	·13		·11	·04	·06	·06
8	·02	..	..	..	..	..	..	..	..	..	..		..	..	..	·02	..	..	..	..	..		..	..	..	..
9	..	..	..	..	..	·03	·03	·01	..	·02	·05		·02	..	·02	·01	..	·02	·01	·01	·02		·02	..	·02	·02
10	·06	·03	·04	..	·05	·03	·03	·03	·06	·03	·06		·04	..	·05	·01	·02	·01	·01	..	·02		·07	·03	·02	·01
11	..	..	·01	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
14	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
15	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
16	·36	·39	·35	·35	·26	·24	·27	·27	·24	·31	·28		·23	·30	·31	·28	·31	·28	·18	·29	·24		·31	·24	·26	·24
17	·03	..	·02	·03	·06	·03	·04	..	·07	·03	·03		·06	·02	·05	·07	·03	·07	·03	·08	·03		·03	·08	·02	·04
18	·01	..	..	..	..	..	..	..	..	·01	..		·01	..	..	..	..	..	..	..	..		..	·01	..	·01
19	..	..	·01	·03	..	·02	·01	..	..	·01	..		·01	..	·01	..	..	·02	·01	..	..		..	..	..	..
20	·01	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	·02	..
21	·36	·36	·31	·33	·33	·29	·29	·31	·31	·35	·30		·26	·31	·32	·33	·34	·34	·27	·28	·24		·32	·31	·29	·29
22	·12	·11	·10	·15	·11	·05	·05	·09	·10	·11	·05		·11	·08	·08	·07	·05	·08	·07	·07	·05		·08	·08	·10	·09
23	·10	·09	·09	·12	·04	·07	·07	·08	·09	·09	·07		·09	·08	·08	..	·07	·08	·08	·08	·07		·08	·08	·09	·09
24	..	·02	..	·03	·06	·05	·05	·01	·06	·05	·09		·11	·07	·06	..	·02	·02	·01	·02	..		·04	..	·03	..
25	..	..	..	..	..	..	..	..	..	..	..		·01	..	..	..	..	..	..	..	..		..	..	..	..
26	..	..	..	..	..	..	·01	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	·01	..
27	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	·01	..
29	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
30	·08	·09	·03	·09	·05	·05	·06	·02	·05	·10	·08		·10	·10	·10	·06	·05	·08	·09	·05	·06		·10	·07	·10	·07
31	·04	·04	·06	·03	·03	·03	·03	·03	·03	·03	·03		·05	·04	·05	·05	·04	·08	·09	·06	·07		·06	·06	·13	·06
*	2·65	2·61	2·50	2·40	2·29	2·71	2·75	2·06	2·30	2·45	2·33		2·36	2·34	2·50	2·38	2·46	2·50	2·12	2·61	2·20	2·45	2·45	2·14	2·43	2·16
†	24·82	23·78	23·29	23·71	20·60	20·70	22·70	21·26	19·74	22·80	20·89		21·80	22·42	23·44	21·85	23·11	23·36	17·96	23·49	20·77	22·20	25·03	21·22	21·77	20·20

* The figures in this row give the totals for the month. † The totals from January 1st

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew. Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim. Bn.)	Croydon (Wn.N.rd.)	Croydon (Dup. H.)	Croydon (Wdml.rd.)	Croydon (Park Hill)	Croydon (Ashbn.rd.)	Croydon (Avond rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump. St.)	West Wickham	Hayes	Orpington	Farming-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·07	·03	·02	·03	·04	·06	·03	·04	·04	·05	·04	·03	·03	·04	·03	·03	·03	·03	·03	·04	·06	·03	·04	·05	·03	·04
2	·28	·31	·29	·30	·30	·26	·23	·25	·21	·21	·24	·23	·21	·24	·22	·20	·21	·23	·25	·25	·25	·25	·28	·24	·24	·24
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	·01	..	..	·01	·02	..	..	..	..	·01
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..
5	·11	..	·12	·12	·11	·12	·10	·12	·09	·12	·10	·11	·10	·12	·09	·11	·10	·12	·14	·11	·12	·12	·15	·13	·12	·07
6	·77	·86	·70	·49	·46	·72	·66	·60	·66	·63	·70	·64	·66	·75	·70	·68	·70	·60	·72	·71	·74	·76	·93	·80	·76	·70
7	·12	·06	·04	·04	·04	·09	·03	·03	·02	·02	·04	·05	·04	·04	·05	·02	·04	·15	·05	·07	·18	·08	·07	·07	·13	·20
8	..	·01	..	..	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	·01	..	..	..
9	·02	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	·02	·01	·02	..	..	·01	·01
10	·07	·01	·02	·02	·02	·05	·03	·04	·03	..	·03	·03	·02	·02	·02	·01	·01	·01	·02	·02	·06	·04	·04	..	·02	·02
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	·28	·24	·23	·25	·23	·26	·24	·24	·16	·25	·23	·24	·22	·28	·25	·26	·24	·24	·27	·26	·22	·26	·33	·27	·20	·16
17	·07	·03	·03	·03	·02	·02	·01	·02	·04	·02	·02	·02	·03	..	·02	·01	·01	·04	·02	·01	·06	·02	·01	·03	·04	·04
18	·02	..	..	..	..	·01	..	..	..	..	·02	·01	..	..	..	..	·01	..	·02	·02	..	·01	..	..	·01	..
19	·03	..	..	..	·01	..	·02	·02	..	..	·02	..	..	..	..	·01	..	·01	·01	·01	..	·01	..	..	..	..
20	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	·27	·30	·28	·29	·25	·26	·24	·27	·26	·23	·20	·19	·20	·24	·21	·20	·24	·26	·30	·28	·29	·26	·28	·24	·22	·22
22	·15	·17	·10	·10	·10	·13	·08	·09	·09	·08	·08	·07	·06	·08	·06	·06	·06	·07	·08	·07	·07	·06	·07	·08	·03	·03
23	·12	..	·10	·12	·07	·11	·10	·10	·10	·09	·12	·11	·10	·12	·10	·11	·09	·11	·10	·09	·09	·08	·08	·09	·10	·08
24	·10	·05	·05	·08	·06	..	..	·02	·01	·03	·01	..	..	·01	·01	..	..	..	..	·03	·01	·01	..	..	..	..
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	..	..	..	..	..	..	·02	..	..	..	·01	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..
27	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	·01	..	..	·01	·01	..	..	..	..	..	..	..
28	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	·01	..	..	..	..	..
29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	·10	·04	·12	·08	·04	·10	·04	·04	·03	·02	·05	·05	·03	·07	·05	·04	·05	·05	·07	·07	·05	·06	·05	06	·05	·04
31	·04	·12	·03	·04	·03	·02	·04	·03	·03	·04	·04	·04	·03	·04	·06	·03	·05	·05	·06	·08	·07	·06	·05	·08	·08	·10
*	2·63	2·23	2·13	1·99	1·78	2·21	1·88	1·94	1·77	1·79	1·95	1·82	1·73	2·06	1·89	1·77	1·85	1·98	2·16	2·18	2·30	2·15	2·39	2·14	2·04	1·96
†	24·14	23·17	20·65	20·53	19·12	21·99	19·47	18·90	18·52	19·14	19·71	19·20	17·27	18·96	18·72	17·70	17·73	19·46	21·83	19·80	21·97	20·90	20·28	20·03	18·69	19·04

* The figures in this row give the totals for the month. † The totals from January 1st.

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for October is 2·83 ins.* **October, 1904.**

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew. Wks.)	Wimbledon (The Downs)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew. Wks.)	Kingston (County H.)	Richmond	Putney Heath	Wandsworth Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·02	·04	·03	·04	·04	·03	·12	..	·05	·05	·03	·03	·09	·03	·03	·04	·02	·03	·03	·03	·04	·03	·05	·03	RECORD CEASED.	·04
2	·20	·21	·21	·20	·28	·20	·15	·25	·23	·22	·22	·22	·33	·20	·19	·26	·19	·20	·19	·25	·22	·22	·27	·28		·21
3	..	..	..	..	..	..	..	..	..	·01	..	..	..	·01	..	..	..	..	..	..	..	..	..	..		..
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..		..
5	·05	·10	·11	·11	·11	·12	·08	·13	·12	·10	·13	·12	·13	·12	·11	·12	·06	·14	·13	·13	·15	·13	·14	·13		·13
6	·73	·81	·78	·70	·72	·64	..	·66	·66	·54	·48	·45	·44	·47	·52	·51	·43	·33	·44	·48	·38	·29	·38	·43		·48
7	·09	·09	·09	·07	·10	·04	·63	·02	·04	·02	·02	·03	·01	·02	·01	·02	·04	·02	·03	·02	·10	..	·02	·08		·01
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
9	·02	·01	..	..	·02	..	..	..	..	..	·01	·01	·01	·01	..	..	..	..	..	..	..	..	..	·01		·02
10	·04	·05	·04	·03	·03	·01	..	..	·04	·03	·03	·03	..	·03	·02	·02	·03	·02	·03	·05	·05	·03	·04	..		·02
11	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			..
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			..
13	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			..
14	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			..
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			..
16	·12	·22	·25	·25	·24	·26	..	·28	·27	·24	·26	·25	·30	·25	·24	·26	·18	·25	·23	·27	·21	·25	·28	·27		·27
17	·04	·01	·02	·02	·04	·02	·21	·01	..	·01	·02	·03	·02	·02	·01	·02	·02	·02	·03	..	·08	·02	·02	·05		·04
18	..	..	..	..	..	..	..	·01	..	·01	..	..	..	·01	..	..	·01	..	..	·01	..	..	·01	·01		·01
19	..	..	..	..	..	..	·01	..	..	·01	..	..	·03	·01	..	..	..	·01	..	..	..	..	·01	..		·01
20	..	..	..	..	..	..	·01	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
21	·21	·20	·24	·24	·21	·23	..	·21	·25	·25	·21	·23	·25	·23	·24	·25	·28	·24	·25	·27	..	·23	·25	·24		·23
22	·03	·05	·06	·06	·08	·06	·15	·07	·07	·09	·10	·08	·10	·07	·08	·06	·07	·05	·09	·09	·06	·09	·11	·13		·06
23	·07	·08	·08	·09	·07	·10	·17	·10	·12	·09	·09	·09	·09	·08	·07	·09	·09	·13	·08	·09	·12	·12	·09	·10		·13
24	..	..	..	..	..	..	..	·02	..	·01	..	..	..	..	..	..	·04	·01	·02	..	..	..	..	..		..
25	..	..	..	..	..	..	..	·01	..	·01	..	..	·01	..	..	..	..	..	..	..	..	..	..	..		..
26	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	·01	..		..
27	..	..	..	..	..	..	·01	·01	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
28	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
29	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
30	·02	·03	·05	·04	·05	·05	..	·06	·04	·03	·01	·05	·03	·03	·02	·04	·02	·03	·03	·04	·03	·04	·03	·02		·04
31	·05	·08	·07	·08	·07	·06	·08	·06	·02	·03	·04	·04	·05	·02	·02	·03	·03	·06	·03	·07	·04	·08	·06	·04		·07
*	1·69	1·98	2·03	1·93	2·06	1·82	1·65	1·92	1·91	1·77	1·65	1·66	1·89	1·62	1·56	1·72	1·51	1·54	1·61	1·81	1·48	1·53	1·77	1·82		1·77
†	16·16	17·17	18·39	17·73	18·61	17·72	14·20	18·38	18·08	18·51	15·79	17·17	18·14	16·80	13·59	17·24	16·25	17·31	16·51	18·25	17·53	17·40	16·89	16·67		16·70

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for Oct. is 2·83 ins.* **October, 1904.**

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sideup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·05		·03	·05	·05	·04	..	·02	·05	·01	·05	·03	·02	·02	..	·03	·03	·02	..
2	·20		·23	·19	·19	·18	·18	·08	·18	·18	·25	·25	·25	·24	·18	·19	·20	·18	·34
3	..		..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	·14		·12	·12	·10	·07	·08	·01	·12	..	·13	·14	·13	·12	·08	·14	·11	·10	·09
6	·55		·53	·49	·73	·78	·82	·45	·56	·51	·59	·44	·48	·41	·37	·44	·52	·49	·46
7	·03		·04	·03	·12	·13	·08	·19	·08	·01	·01	·07	·06	·02	·01	·04	·03	·02	..
8	..		..	..	..	..	·03	·01	..	..	..	..	..	..	..	..	..	..	..
9	..		..	..	..	·02	..	·01	..	·02	·02	·02	·02	·02	..	·05	·02	·01	..
10	·03		..	·02	·03	·02	..	·01	·02	..	..	..	..	..	..	..	·01	..	..
11	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..		..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	·27		·24	·25	·20	·15	·13	·04	·22	·13	·30	·23	·28	·26	·18	·18	·18	·17	·18
17	·04		·04	·04	·03	·14	·03	·01	·03	·01	·02	·05	·02	..	..	·06	·04	·02	..
18	..		..	·01	·01	..	..	..	·02	..	..	..	·01	..	..	..	..	..	..
19	..		..	..	..	·02	..	..	·02	..	·01	..	..	..	..	..	·01	..	..
20	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	·23		·22	·23	·19	·21	·22	·16	·23	·18	·30	·24	·25	·26	·22	·22	·21	·20	·22
22	·09		·06	·07	·05	·02	·03	·02	·08	·06	·06	·09	·09	·15	·07	·10	·08	·07	·04
23	·13		·12	·13	·09	·08	·05	·05	·11	·13	·15	·11	·11	·09	·06	·15	·12	·13	·12
24	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	..		..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..
28	..		..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..
30	·05		·04	·03	·04	·03	·03	·01	·04	·01	·03	·02	·04	·02	..	..	·05	·02	..
31	·09		·06	·06	·07	·06	·05	·03	·08	·03	·06	·05	..	·05	·01	·06	·06	·06	·01
*	1·90	1·79	1·73	1·74	1·92	1·95	1·73	1·10	1·84	1·28	1·98	1·74	1·76	1·66	1·18	1·66	1·69	1·49	1·46
†	17·77	17·71	16·55	16·65	17·69	16·13	15·42	10·19	17·65	12·34	18·33	15·63	17·27	17·04	11·76	16·34	16·78	15·16	14·41

MONTHLY REPORT.

* The figures in this row give the totals for the month. † The totals from January 1st.

NOTES.

(October, 1904.)

The month has been dry and mild, but somewhat unhealthy. Influenza has been somewhat prevalent, and there have been in places a considerable number of cases of diphtheria and scarlet fever. Fogs have been especially prevalent for so early in the season, no less than fourteen days having been noted at Greenwich. Solar and lunar halos have also been somewhat numerous, and have been noticed practically throughout the district. Lightning was seen at Nutfield on the 31st, and there was darkness at Sanderstead on the 11th and 12th. The observer at Sanderstead writes:—"On the 25th, at 10.15 p.m., walking up our hill, I saw a bright-coloured corona round the moon, and immediately outside of it a very bright rainbow-coloured ring (indigo inside). We must have been in a rare frosty mist, for when we got higher it all cleared in a moment, and there was not even a corona left. A few cirrus-cumulus about, but none over the moon." The rainfall is about one inch below the average. The mean temperature of the month is about one degree above the average, and was at Croydon (Duppas House) 51°·2, at Chipstead and Wallington 50°·3, and at Warlingham and Worcester Park 50°·0. There were recorded at Wallington 97·4 hours of sunlight, which is three hours below the October average of the fifteen years 1886–1900.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for November is 2·26 ins.* **November, 1904.**

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	ReigateHill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (tower ga.)	Chevening Park	Sevenoaks	Chelsham	Warlingham	Kenley (Hazelea)	Kenley (PlaceFell)	Sanderstead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·01	..	·01	·03	·02	..	..	·01	·01	·02	·02	RECORD CEASED.	·03	·03	·04	·01	..	·05	·06	·04	·03	MONTHLY GAUGE.	·04	·03	·03	·02
2	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
3	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
4	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
5	·01	..	..	..	..	..	..	·01	..	..	..		..	..	..	·01	..	..	..	..	·02		..	..	..	..
6	·38	·36	·34	·37	·30	·28	·28	·25	·34	·39	·40		·33	·45	·42	·36	·44	·40	·38	·37	·35		·42	·29	·34	·33
7	·34	·33	·32	·33	·30	·33	·33	·32	·29	·29	·37		·35	·30	·40	·43	·40	·52	·42	·55	·41		·44	·40	·38	·39
8	·09	·07	·09	·08	·08	·07	·07	·03	·07	·09	·08		·11	·12	·09	·10	·11	·12	·07	·17	·14		·12	·12	·10	·10
9	·01	·08	..	·03	·09	·08	·08	·05	·06	·08	·09		·09	·07	·06	·12	·13	·12	·07	·09	·07		·10	·07	·08	·07
10	·54	·45	·53	·50	·58	·58	·58	·59	·55	·54	·58		·62	·60	·60	·57	·61	·50	·42	·50	·56		·57	·45	·47	·45
11	..	..	..	..	..	..	..	..	..	..	..		·01	..	..	..	..	..	..	..	..		..	·01	·01	..
12	..	..	..	..	..	·01	·01	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
13	..	..	..	..	..	·01	·01	..	..	·01	..		..	..	·01	..	..	..	..	..	..		..	..	..	·01
14	..	..	..	..	..	·01	·01	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	·03	..
15	..	..	..	..	..	·01	·01	..	·01	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
16	·01	..	..	..	..	..	..	..	..	..	..		..	..	·01	..	..	..	..	..	..		..	..	·01	..
17	·01	..	·03	·04	..	·01	·02	..	..	·01	..		·02	..	..	..	..	·06	..	..	..		..	..	..	·02
18	·01	..	·01	..	..	·01	·01	..	·01	·01	..		·01	..	·02	..	..	..	..	..	·02		..	..	·01	·02
19	..	..	..	·04	·02	..	..	..	·01	·01	·03		·02	..	·02	..	·01	..	..	..	..		·03	..	·02	·02
20	..	..	..	..	..	..	..	..	..	..	..		..	·03	..	..	..	..	..	·01	..		..	..	..	..
21	·07	·10	·10	·10	·08	·09	·09	·09	·09	·08	·08		·10	·08	·10	·11	·07	·12	·10	·08	·09		·10	·09	·10	·08
22	·04	..	·03	·08	·03	·02	·02	..	·02	·02	·02		·02	..	..	..	..	·04	·02	·05	..		·02	·03	·02	·01
23	·03	·11	·05	..	·06	·05	·06	·05	·05	·06	·07		·08	·04	·09	..	..	·03	·03	·02	·03		·07	·07	·07	·07
24	..	..	..	..	..	..	..	..	..	..	..		..	·05	..	..	..	..	..	..	..		..	..	..	..
25	..	..	..	..	..	·01	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
26	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
27	..	..	..	..	..	·01	·01	..	..	..	..		·02	..	..	..	..	..	..	..	..		..	..	..	·01
28	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
29	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
30	..	..	..	..	..	..	..	..	·01	..	..		..	..	..	..	..	..	..	..	..		..	..	·01	..
*	1·55	1·50	1·51	1·60	1·56	1·58	1·59	1·40	1·52	1·61	1·74		1·81	1·77	1·86	1·71	1·77	1·96	1·57	1·88	1·72	1·48	1·91	1·56	1·69	1·60
†	26·37	25·28	24·80	25·31	22·16	22·28	24·29	22·66	21·26	24·41	22·63		23·61	24·19	25·30	23·56	24·88	25·32	19·53	25·37	22·49	23·68	26·94	22·78	23·46	21·80

* The figures in this row give the totals for the month. † The totals from January 1st

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew.Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim. Bn.)	Croydon (Wn.N.rd.)	Croydon (Dup. H.)	Croydon (Wdml.rd.)	Croydon (Park Hill)	Croydon (Ashbn.rd.)	Croydon (Avond.rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump.St.)	West Wickham	Hayes	Orpington	Farning-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·02	..	·02	·02	·02	·04	·01	·01	..	·02	·02	·01	·01	·01	·02	..	·01	·02	·02	·02	·03	..	..	·02	·03	
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
5	..	·01	..	..	..	..	..	·01	·01	·02	..	..	..	..	..	·01	..	..	..	..	..	..	..	·01	..	
6	·53	·41	·41	·41	·36	·34	·31	·33	·32	·30	·31	·31	·30	·34	·32	·31	·29	·31	·40	·36	·35	·32	·24	·30	·31	
7	·37	·25	·26	·25	·25	·33	·27	·29	·27	·28	·29	·28	·34	·30	·30	·27	·30	·32	·30	·34	·45	·40	·35	·29	·35	
8	·06	·10	·05	·11	·10	·10	·10	·11	·07	·13	·11	·12	·12	·12	·10	·13	·14	·14	·12	·13	·13	·12	·15	..	·11	
9	·15	·03	·03	·06	·05	·08	·06	·05	·03	..	·06	·07	·06	·06	·04	·07	·06	·09	·08	·07	·09	·08	·10	·19	·09	
10	·53	·55	·43	·50	·46	·52	·39	·37	·39	·44	·40	·37	·35	·40	·36	·35	·35	·37	·40	·38	·35	·38	·40	·35	·35	
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
12	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	
13	..	..	..	..	..	..	..	·01	..	..	·02	..	..	..	·01	..	..	..	..	·02	..	·01	..	..	..	
14	..	..	..	..	..	..	..	..	..	..	·02	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	
15	..	..	..	..	..	..	·02	·02	·01	..	·01	..	..	..	·01	..	·01	..	..	·01	..	..	..	..	..	
16	·03	..	..	·02	..	..	..	·02	..	..	..	..	..	·05	..	..	..	..	..	..	..	..	..	..	..	
17	·02	..	·01	·03	·02	..	·01	·02	·01	..	·02	·02	..	·01	·01	·01	·01	·02	·03	·02	..	·01	·03	..	..	
18	·01	·03	..	..	·03	·04	..	·01	..	..	·02	..	..	..	..	·01	·01	·01	·02	·01	·03	..	..	..	..	
19	·02	..	..	·01	..	·01	..	·02	·01	..	·02	·01	..	..	·01	..	..	..	·01	·01	..	..	..	..	..	
20	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	
21	·11	·13	·11	·10	·10	·10	·11	·10	·08	·13	·11	·11	·12	·05	·10	·09	·07	·06	·09	·09	·08	·08	·07	·13	·10	
22	..	..	..	..	·02	..	·02	..	..	·10	·01	·02	·02	·06	·01	..	·01	·04	·03	·02	·02	·01	..	..	·02	
23	·07	·23	·12	..	·08	·10	·06	·14	·13	·03	·08	·10	·10	·10	·10	·12	·08	·11	·09	·10	·10	·08	·11	..	·04	
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
27	..	..	·07	·03	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
28	..	..	..	·02	..	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	
29	..	..	..	·04	..	..	..	·03	·01	..	·01	..	..	..	..	..	·01	..	·01	·01	..	..	..	..	..	
30	·02	..	..	..	·03	..	·01	..	..	..	..	..	..	·02	..	·01	..	·01	..	..	..	..	·02	..	..	
*	1·94	1·74	1·51	1·60	1·52	1·66	1·39	1·56	1·34	1·45	1·52	1·42	1·42	1·52	1·40	1·38	1·35	1·50	1·60	1·61	1·63	1·50	1·52	1·29	1·40	
†	26·08	24·91	22·16	22·13	20·64	23·65	20·86	20·46	19·86	20·59	21·23	20·62	18·69	20·48	20·12	19·08	19·08	20·96	23·43	21·41	23·60	22·40	21·80	21·32	20·09	

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. The sixty years (1841–1900) average at Greenwich for November is 2·26 ins. November, 1904.

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for November is 2·26 ins.* **November, 1904.**

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew. Wks.)	Wimbledon (The Downs)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew. Wks.)	Kingston (County H.)	Richmond	Putney Heath	Wandsworth Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·01	·02	·01	·02	·03	·01	·01	·01	..	·01	..	·01	·01	..	·01	·01	·02	..	·01	..	..	..	·01	..		·01
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
3	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
5	·01	..	..	..	..	..	..	·01	..	..	..	..	·01	·01	..	·01	..	·01	..	..	..	..	..	..		..
6	·39	·32	·35	·33	·27	·32	·18	·35	·32	·30	·29	·33	·28	·29	·31	·35	·30	·33	·30	·33	·26	·35	·31	·28		·31
7	·30	·27	·31	·31	·28	·31	·45	·33	·28	·30	·32	·32	·37	·33	·30	·31	·33	·44	·32	·38	·36	·41	·42	·43		·38
8	·09	·15	·13	·14	·11	·13	·14	·14	·11	·12	·14	·13	·15	·12	·09	·10	·10	·13	·12	·13	·10	·12	·14	·13		·14
9	·06	·07	·07	·08	·08	·07	·23	·01	·05	·07	·07	·09	·06	·07	·03	·04	·03	·03	·04	·04	·06	·04	·07	·10		·06
10	·40	·33	·42	·38	·39	·37	·12	·44	·40	·40	·36	·39	·39	·38	·43	·43	·47	·42	·42	·45	·46	·43	·42	·41		·37
11	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	·01	..	..	..	..	..		..
12	..	..	..	..	..	..	..	..	..	·01	·01	..	..	..	..	..	..	..	..	..	..	..	..	..		..
13	..	..	..	..	..	..	..	·01	..	·01	·01	..	·01	·01	..	..	..	..	..	..	..	..	·01	..		·01
14	..	..	..	..	..	..	·02	..	..	·01	..	..	..	..	..	..	·02	..	..	..	..	..	..	..		..
15	..	..	..	..	..	..	..	·01	..	·01	·01	..	..	·01	..	..	..	·01	..	·03	..	..	..	..		·01
16	·01	..	..	..	..	·02	..	·01	..	·01	·01	..	..	..	..	..	..	..	..	..	..	..	..	..		..
17	..	..	·03	..	..	..	..	·01	..	·01	..	·03	·01	..	..	..	..	·01	·01	..	·05	..	·02	..		·02
18	..	..	..	·01	..	·02	·01	..	..	·01	·01	·01	..	..	..	..	..	..	·01	·02	..	..	·01	..		·01
19	..	..	..	..	..	..	..	..	..	·01	..	·02	..	..	..	·03	·02	·01	..	..	..	·03	·02	·02		·01
20	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
21	·08	..	·08	·08	·09	·05	·06	·09	·16	·07	·07	·09	·10	·08	·11	·09	·11	·07	·11	..	·12	·06	·08	·11		·07
22	·02	..	·02	·02	·01	..	·01	..	·02	·01	·01	·03	·01	..	·01	·02	..	·01	..	·02	..	..	·02	·01		·01
23	·02	·15	·12	·11	·07	·12	·05	·03	·12	·03	·10	·11	·12	·03	..	·10	·08	·07	·11	·17	·10	·06	·11	·11		·13
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
27	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		·01
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	·02	..		..
29	..	..	..	..	..	..	·01	·01	..	·01	..	..	·01	..	..	·02	..	·02	..	..	·03	..	..	..		..
30	·01	..	..	..	..	·02	..	..	·02	·01	..	..	·02	·12	·09	..	..	..	·01	..	..	..	·01	·02		·01
*	1·40	1·31	1·54	1·48	1·33	1·44	1·30	1·47	1·48	1·43	1·41	1·56	1·55	1·45	1·38	1·51	1·48	1·56	1·48	1·57	1·54	1·50	1·67	1·62		1·56
†	17·56	18·48	19·93	19·21	19·94	19·16	15·50	19·85	19·56	19·94	17·20	18·73	19·69	18·25	14·97	18·75	17·73	18·87	17·99	19·82	19·07	18·90	18·56	18·29		18·26

RECORD CEASED.

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for Nov. is 2·26 ins.* **November, 1904.**

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sidcup	Wilming-ton	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	·02		..	·01	·02	·02	·03	..	·02	..	..	..	·05	..	..	..	..	..	..
2	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	..		·02	·02	·02	..	..	..	..	..	..	..	..	..	..	..	·01	·01	..
6	·32		·07	·32	·37	·44	·39	·25	·42	·34	·40	·32	·33	·41	·33	·40	·38	·36	·35
7	·37		·62	·40	·33	·35	·28	·25	·45	·36	·47	·41	·40	·56	·50	·42	·38	·47	·38
8	·14		·16	·15	·15	·11	·13	·04	·18	·09	·12	·14	·14	·18	·11	·16	·17	·14	·17
9	·08		..	·07	·06	·09	·08	..	·08	·03	·05	·06	·06	·01	·03	·22	·06	·06	..
10	·39		·44	·37	·41	·40	·38	·24	·42	·37	·50	·40	·40	·42	·34	·42	·40	·38	·36
11	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..		..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..		..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..		..	·01	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	..		..	·01	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	·03		·02	·01	·01	..	..	..	..	..	·03	..	·01	..	..	..	..	..	..
18	·01		·01	·01	·01	..	..	..	·01	..	..	..	·01	..	..	..	·02	·01	..
19	·02		·01	·01	..	..	·03	..	·01	·01	..	..	·02	·02	·01	..	·02	·01	..
20	..		..	..	..	..	..	..	·01	..	..	..	..	..	..	·02	..	..	..
21	·07		·06	·09	·08	·08	·04	·06	·08	·07	·09	·01	·11	·09	·05	·09	·07	·07	·07
22	..		..	..	·02	..	·06	..	·03	..	..	·06	..	..	..	..	..	·01	..
23	·12		·18	·12	·05	·04	·05	..	·10	·01	..	·06	..	·08	..	..	·11	·13	·07
24	..		..	..	..	..	..	..	..	..	..	..	..	..	..	·07	..	..	..
25	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	..		..	..	..	..	..	..	..	..	·13	..	..	..	..	..	..	..	..
29	..		..	·02	..	..	..	..	..	..	·02	..	..	..	..	..	..	..	..
30	..		..	·01	·03	..	..	·03	·02	..	..	·01	..	..	..	..	·01	..	..
*	1·57	1·59	1·59	1·65	1·59	1·53	1·47	·87	1·83	1·28	1·81	1·47	1·53	1·77	1·37	1·80	1·63	1·65	1·40
†	19·34	19·30	18·14	18·30	19·28	17·66	16·89	11·06	19·48	13·62	20·14	17·10	18·80	18·81	13·13	18·14	18·41	16·81	15·81

MONTHLY REPORT.

* The figures in this row give the totals for the month.

† The totals from January 1st.

NOTES.

(November, 1904.)

The month has been cold and dry, and extremely foggy, from the 11th to the 19th. The month has been unhealthy, scarlet fever and influenza have been prevalent, with many cases of diphtheria in places. A fine Red Admiral butterfly was seen at Ockley on the 10th, and numerous plants were in flower at Nutfield up to the 22nd. Snow fell on the 22nd and 23rd throughout the district, and the cold from that date till the end of the month was severe. The snow varied from one inch to two inches in depth. A sun-pillar was seen at Epsom at 7.45 a.m. on the 22nd. On the 24th a solar halo was observed in most places in the district. Splendid sunsets were seen at Abinger on the 13th and 14th, and hoar frosts occurred on many days throughout the district. The rainfall varied from one-half to one-quarter below the average. The mean temperature of the month was about 2° below the average, and was at Wallington 42°·1, at Croydon (Duppas House) 41°·8, at Chipstead 41°·7, at Warlingham 41°·5, and at Worcester Park 41°·4. There were recorded at Wallington 65·3 hours of sunlight, which is 14·3 hours or six per cent. above the November average of the fifteen years 1886–1900.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

Daily Rainfall.

The sixty years (1841–1900) average at Greenwich for December is 1·84 ins.

December, 1904.

Day of Mo.	Holmbury St. Mary	Abinger (Rectory)	Abinger (The Hall)	Dorking (Denbies)	Redhill (Linkfd.la.)	Nutfield (old gauge)	Nutfield (newgauge)	Buckland	ReigateHill	Upper Gatton	Merstham	Harp's Oak Cottage	Chipstead	Chaldon	Caterham	Westerham (Hill Est.)	Westerham (Town)	Knockholt (field gau.)	Knockholt (tower ga.)	Chevening Park	Sevenoaks	Chelsham	Warlingham	Kenley (Hazelea)	Kenley (Place Fell)	Sanderstead
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
2	·01	..	·03	..	·03	·02	·02	·01	..	·01	·03		..	..	·02	·08	·02	·05	·05	..	·03		..	·01	·02	·02
3	·02	..	..	..	..	..	..	·01	·01	..	..		..	..	..	..	..	..	..	..	..		..	..	..	..
4	·36	·44	·33	·37	·30	·16	·26	·27	·32	·44	·28		·50	·37	·37	·34	·32	·38	·18	·31	·21		·40	·31	·40	·32
5	·59	·41	·26	·31	·23	·26	·25	·31	·21	·44	·25		·52	·35	·30	·47	·61	·50	·45	·59	·22		·36	·49	·39	·33
6	·86	·85	·77	·82	·78	·80	·82	·84	·77	·79	·74		·91	·80	·85	·88	·76	1·02	·77	·86	·67		·89	·61	·85	·80
7	·11	·08	·13	·07	·13	·15	·18	·16	·12	·13	·11		·12	·13	·09	·13	·13	·12	·11	..	·11		·08	·18	·08	·07
8	·04	·05	..	·08	..	·07	·07	·01	..	..	·02		..	·03	..	..	..	..	..	..	·01		..	..	..	·01
9	·42	·51	·54	·41	·36	·15	·20	·37	·42	·54	·24		·60	·26	·28	·36	·46	·44	·38	·44	·28		·31	·44	·48	·44
10	·04	·03	·09	·15	·08	·05	·04	·05	·07	·11	·05		·11	·11	·10	·06	·05	·08	·06	·07	·05		·08	·06	·11	·09
11	·24	·27	·24	·21	·20	·22	·25	·21	·16	·16	·22		·21	·17	·23	·30	·26	·27	·21	·30	·25		·28	·19	·17	·15
12	·11	·11	·12	·10	·10	·13	·13	·14	·15	·13	·15		·13	·13	·12	·12	·13	·11	·09	·12	·16		·13	·06	·07	·06
13	·10	·07	·31	·10	·10	·03	·05	·03	·01	·03	·01		·03	..	·04	·02	..	..	..	..	·08		·14	·02	·30	·02
14	·47	·43	·36	·40	·40	·50	·57	·52	·42	·37	·49		·55	·43	·45	·68	·71	·65	·52	·70	·62		·44	·54	·17	·34
15	·03	·01	·02	·03	·03	·02	·02	·01	·02	·03	·02		·03	·03	·02	·01	·02	·02	·01	·02	·01		·02	·01	·02	·02
16	·02	..	·01	..	..	·04	·04	·02	·01	·02	·02		·01	·02	·02	·03	·01	·04	·01	·01	·01		·02	..	·01	·01
17	..	·02	..	..	..	..	..	·01	·01	..	..		..	..	..	..	..	..	..	·02	..		..	..	..	..
18	·01	..	·03	..	..	·02	·02	·01	..	·03	·02		·03	..	·03	..	..	·03	·02	·01	·01		·03	·02	·03	·02
19	..	..	·01	·04	·04	·02	·02	..	..	·01	..		..	..	·05	..	..	..	..	..	..		·02	·01	..	·02
20	..	..	..	·02	·02	·01	·01	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	·01	..
21	..	..	..	..	..	·01	·01	..	..	·02	..		..	..	·02	..	..	..	..	..	..		·03	·01	..	·01
22	..	..	..	..	..	·01	·01	..	..	·01	..		·03	..	..	..	..	·05	·04	..	..		·02	..	..	·01
23	·02	..	..	..	..	·01	·01	..	·03	..	..		..	..	..	..	..	..	..	..	·02		..	..	..	·02
24	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..		..	..	·02	·01
25	·01	·03	..	..	..	·01	·01	·01	..	·01	..		·02	..	·01	·04	..	..	..	..	·01		·02	..	·03	·03
26	..	..	..	..	..	..	..	·03	·01	·01	..		..	..	·01	..	..	..	..	..	..		..	..	..	·01
27	..	..	·03	..	..	·01	·01	·01	..	..	..		..	·02	..	..	·06	..	..	..	..		..	..	..	..
28	·06	·04	·04	·06	·06	·04	·04	·03	·03	·03	·06		..	·07	·03	·04	·04	·07	·05	·07	·03		·05	..	..	·03
29	·04	·02	·01	·03	·03	·04	·03	·01	·01	·03	·02		..	..	·03	·04	..	·04	·01	..	·02		·06	·05	·10	·06
30	..	..	..	..	..	..	..	..	..	..	..		·07	..	..	..	..	..	..	·04	..		..	..	..	..
31	..	..	..	..	..	..	..	·01	..	..	..		..	..	..	..	..	·03	·02	·05	·06		..	..	·01	·01
*	3·56	3·37	3·33	3·20	2·89	2·78	3·07	3·08	2·78	3·35	2·73		3·87	2·92	3·07	3·60	3·58	3·90	2·98	3·61	2·86		3·38	3·01	3·27	2·91
†	29·93	28·65	28·13	28·51	25·05	25·06	27·36	25·74	24·04	27·76	25·36		27·48	27·11	28·37	27·16	28·46	29·22	22·51	28·98	25·35		30·32	25·79	26·73	24·71

RECORD CEASED.

MONTHLY GAUGE.

* The figures in this row give the totals for the month. † The totals from January 1st

Day of Mo.	Burgh Heath	Hedley	Leather-head	D'Abernon Chase	Oxshott	Banstead	Sutton (Waterwk.)	Sutton (Sew.Wks.)	Benhilton	Carshalton	Wallington	Bedding-ton	Croydon (Brim. Bn.)	Croydon (Wn.N.rd.)	Croydon (Dup. H.)	Croydon (Wdml.rd.)	Croydon (Park Hill)	Croydon (Ashbn.rd.)	Croydon (Avond rd.)	Addington Hills	Addington (Park Fm.)	Addington (Pump. St.)	West Wickham	Hayes	Orpington	Farning-ham Hill
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
2	..	·09	..	·08	·05	·05	·03	·04	·02	·03	·03	·03	·03	·03	·04	·03	·03	·03	·02	·01	..	..	..	·01	..	
3	·03	..	·02	..	..	·02	..	·02	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	·01	..	
4	·30	·18	·24	·15	·15	·30	·15	·16	·10	·14	·19	·20	·16	·19	·18	·16	·18	·22	·30	·26	·33	·33	·33	·24	·23	
5	·22	·26	·19	·25	·24	·17	·17	·25	·24	·24	·17	·16	·15	·16	·17	·16	·18	·11	·27	·31	·35	·43	·52	·39	·31	
6	·76	1·00	·88	·82	·86	·84	·84	·82	·78	·80	·81	·84	·82	·88	·80	·82	·79	·78	·84	·80	·89	·81	·91	·86	·87	
7	·05	·09	·08	·08	·06	·05	·03	·06	·03	·03	·05	·05	·03	·05	·05	·04	·06	·06	·05	·05	·08	·09	·05	·06	·07	
8	·09	..	·01	..	·02	..	..	·02	..	..	·01	·01	..	·01	·01	·01	·01	..	·01	·01	..	·01	..	..	·01	
9	·34	·45	·34	·28	·22	·38	·27	·20	·22	·20	·23	·23	·21	·30	·29	·25	·32	·38	·37	·33	·24	·20	·21	·18	·20	
10	·12	·13	·11	·10	·10	·11	·08	·10	·10	·10	·10	·09	·09	·10	·10	·10	·10	·11	·09	·11	·06	·11	·09	·08	·05	
11	·20	·20	·15	·12	·14	·20	·11	·09	·08	·09	·10	·10	·08	·09	·10	·08	·08	·10	·12	·10	·12	·15	·13	·07	·21	
12	·07	·09	·09	..	·07	·08	·04	·10	·08	·06	·07	·07	·10	·10	·11	·21	·12	·15	·07	·08	·08	·10	·08	·08	·06	
13	·04	·45	·10	·05	·07	·05	·03	·09	·05	..	·06	·03	..	·03	·04	·03	·03	..	·02	·03	..	·03	..	·05	·01	
14	·49	·32	·34	·34	·19	·35	·33	·24	·27	·30	·30	·37	·35	·40	·36	·28	·33	·37	·37	·34	·34	·37	·40	·33	·39	
15	·02	·04	..	·04	·02	·02	·01	·02	..	·02	·01	·01	..	·01	·01	·01	..	·01	·02	·01	·02	·01	..	·01	·01	
16	·03	..	..	·03	..	..	·02	·02	·01	·03	..	..	..	..	..	·01	..	..	..	·01	·02	·01	..	·01	..	
17	..	..	..	..	..	·04	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
18	..	..	..	·02	·03	..	·02	·03	·02	·03	·02	·03	·02	·03	·04	·03	·02	·02	·03	·04	·04	·03	·03	·04	·03	
19	·05	..	..	..	..	·01	·01	·01	..	..	·02	..	..	..	..	..	·01	·01	·01	..	..	..	..	..	·01	
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	
21	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	·01	..	..	..	..	..	
22	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	·02	·03	·01	..	..	·04	..	·02	
23	·02	..	·01	..	..	..	·02	·03	·02	..	·04	·02	..	·05	·03	·03	·02	..	..	·02	..	·01	..	..	..	
24	..	..	..	..	·03	..	..	..	..	..	·01	..	..	..	..	..	..	..	·01	·01	·06	..	..	..	..	
25	·03	·01	·05	..	·02	..	·03	·03	·02	..	·03	·02	·05	·03	·03	·02	·02	·03	·03	·03	..	·02	·03	..	·02	
26	..	..	..	·04	..	..	·01	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
27	·01	..	·01	·02	..	·04	·01	·02	·01	·05	·01	·01	..	..	·02	·01	..	·01	·01	·02	..	·01	·01	..	..	
28	·04	·05	·05	·05	·04	·03	·01	·03	·02	·05	·03	·03	·03	·03	·03	·02	·04	·04	·03	·03	·05	·03	·05	·13	·05	
29	·02	·03	·02	·08	·07	·10	·04	·03	..	·02	·05	·03	..	·03	·02	·02	·03	·03	·07	·07	·06	·05	·04	·04	·05	
30	·04	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	
31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
*	2·99	3·39	2·69	2·55	2·38	2·84	2·27	2·42	2·07	2·19	2·34	2·33	2·12	2·52	2·44	2·32	2·37	2·50	2·77	2·70	2·74	2·80	2·92	2·59	2·60	
†	29·07	28·30	24·85	24·68	23·02	26·49	23·13	22·88	21·93	22·78	23·57	22·95	20·81	23·00	22·56	21·40	21·45	23·46	26·20	24·11	26·34	25·20	24·72	23·91	22·69	

* The figures in this row give the totals for the month. † The totals from January 1st.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for December is 1·84 ins.* **December, 1904.**

Day of Mo.	Southfleet	Chislehurst	Bickley	Bromley	Bromley Common	Beckenham	Anerley	South Norwood	Beddington Corner	Morden	Wimbledon (Sew. Wks.)	Wimbledon (The Downs)	Wimbledon (Windmill)	Raynes Park	New Malden	Worcester Park	Esher	West Molesey	Surbiton	Kingston (Sew. Wks.)	Kingston (County H.)	Richmond	Putney Heath	Wandsworth Common	Streatham	West Norwood
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..	..	..	..	·03	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
2	·01	..	·04	·04	..	·03	..	·03	..	·01	·03	..	·04	·01	·03	·02	·06	·05	·04	·05	·05	·05	·05	·02		·03
3	..	..	..	..	·01	..	·05	·01	..	·01	·01	..	..	..	..	..	·02	..	·01	..	..	..	..	..		..
4	·14	·19	·15	·15	·20	·17	·02	·14	·16	·10	·09	·14	·10	·10	·08	·11	·08	·10	·12	·12	·15	·09	·07	·12		·11
5	·40	·35	·28	·26	·36	·16	·07	·16	·27	·25	·15	·16	·15	·16	·15	·22	·16	·28	·17	·16	·10	·26	·16	·13		·17
6	·73	·75	·88	·82	·73	·77	·92	·85	·85	·85	·92	·95	·92	·90	1·02	·85	·94	·75	1·01	1·05	1·05	·68	·96	1·08		·88
7	·06	..	·05	·05	·06	·04	·02	·03	·04	·03	·02	·03	·02	·02	·02	·04	·01	·01	·02	·02	·05	..	·02	·03		·01
8	·01	·06	..	·01	..	·01	..	·01	..	..	..	..	..	..	..	·01	·01	·01	·01	..	..	..	..	..		·01
9	·25	·16	·24	·24	·17	·36	·06	·26	·16	·15	·10	·11	·11	·11	·10	·15	·10	·06	·13	·15	·15	·14	·12	·11		·16
10	·03	·07	·06	·06	·07	·08	·26	·09	·08	·17	·06	·06	·06	·06	·07	·10	·06	·08	·10	·09	·14	·08	·07	·10		·09
11	·17	·10	·08	·07	·10	·07	·02	·08	·10	·07	·09	·12	·12	·12	·11	·12	·11	·14	·13	·15	·15	·14	·13	·11		·08
12	·02	·12	·13	·18	·08	·37	·33	·31	·12	·06	·07	..	·02	·04	·06	·08	·06	·02	·09	·06	·08	·03	·03	·03		·07
13	..	..	·01	·02	·02	·01	..	·02	..	·01	·01	..	·03	·04	·05	·09	·09	·07	·09	·11	..	·10	·03	..		·01
14	·45	·36	·38	·35	·36	·32	·28	·30	·29	·27	·26	·36	·27	·27	·25	·27	·21	·28	·29	·30	·36	·22	·31	·33		·29
15	·03	·01	·01	·01	·02	·01	·01	·01	..	·01	·01	·02	·02	·01	·02	·02	·02	·02	·03	·02	·03	·03	·03	·03		·01
16	·01	..	..	..	·01	..	..	·02	·01	·01	..	..	..	..	..	..	..	..	..	..	..	..	·01	..		·01
17	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
18	·02	·05	·04	·03	·03	·02	·01	·01	·03	·07	..	·04	·07	·03	·02	·02	·02	·02	·02	·03	·02	·02	·03	·02		·04
19	..	..	..	..	..	..	·02	·03	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..		·01
20	..	..	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
21	..	..	..	..	..	..	·01	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		·01
22	·03	..	..	..	..	·01	..	·01	..	..	..	..	..	..	..	..	..	..	·01	..	..	..	..	..		·01
23	·01	..	..	·03	..	..	·03	..	..	..	..	..	..	·03	..	..	..	·03	·01	..	·03	..	·03	·01		·02
24	..	..	..	..	..	..	..	·02	..	·01	..	..	..	..	..	..	·03	..	..	..	·03	..	..	..		..
25	·03	·05	..	·02	·07	·04	..	..	·04	·01	..	·05	·04	·02	..	·05	..	·01	·02	·02	..	..	·01	·03		·02
26	·02	..	·06	..	..	..	·01	·03	..	·01	..	..	·01	..	..	..	·01	..	..	..	..	..	·01	·01		·01
27	·01	..	..	·01	·02	..	..	·07	·02	·10	..	..	·02	·01	..	..	..	..	..	·01	..	..	·02	·01		·01
28	·04	·04	·04	·05	·04	·05	·04	·05	·02	..	·01	·04	·02	·02	·07	·03	·01	·02	·02	·02	·02	·05	·02	·03		·04
29	·01	·02	·03	·03	·02	·03	..	·02	·02	·01	·02	·03	·02	·02	·01	·03	·03	·02	·03	·03	·02	..	·02	·04		·04
30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	·01	..	..	..		..
31	·03	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..
*	2·52	2·33	2·48	2·43	2·41	2·55	2·17	2·58	2·21	2·22	1·86	2·11	2·04	1·97	2·06	2·21	2·03	1·97	2·35	2·39	2·44	1·89	2·13	2·24		2·14
†	20·08	20·81	22·41	21·64	22·35	21·71	17·67	22·43	21·77	22·16	19·06	20·84	21·73	20·22	17·03	20·96	19·76	20·84	20·34	22·21	21·51	20·79	20·69	20·53		20·40

RECORD CEASED.

Daily Rainfall. *The sixty years (1841–1900) average at Greenwich for Dec. is 1·84 ins.* **December, 1904.**

Day of Mo.	U. Norwood (Dul.W.Pk.)	U. Norwood (Fox H.Gs.)	Forest Hill (Dartm.rd.)	Forest Hill (S&VWC)	Sidcup	Wilmington	Dartford	Greenhithe	Eltham	Nunhead	Brockwell Park	Brixton	Clapham Park	Battersea Park	Battersea (S&VWC)	Telegraph Hill	Greenwich	Deptford	Southwark Park
	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..		·04	·02	·03	·01	·03	..	·04	..	·02	·03	..	·04	·13	·04	·06	·02	..
3	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	·18		·12	·12	·12	·11	·08	·03	·22	·14	·12	·14	..	·06	·03	·11	·09	·09	·06
5	·24		·20	·15	·31	·27	·25	·11	·21	·15	·32	·12	·33	·30	·16	·20	·18	·17	·39
6	·78		·83	·88	·84	·75	·74	·69	·83	·92	1·07	·94	·76	·80	·85	·93	·93	·97	·69
7	·03		·04	·04	·08	·07	·05	·04	·06	·03	·03	·05	·04	·02	·01	·02	·02	·03	·01
8	..		·03	..	·01	..	·03	..	·02	..	..	..	·03	..	..	..	·01	..	·01
9	·22		·26	·20	·16	·16	·12	·12	·16	·13	·16	·12	·13	·10	·08	·18	·26	·17	·10
10	·04		·10	·07	·06	·05	·04	·03	·07	·04	·07	·08	·09	·05	·03	·06	·05	·06	..
11	·11		·06	·08	·10	·14	·12	·09	·08	·06	·09	·11	·09	·13	·08	·08	·07	·07	·08
12	·15		·13	·07	·14	·05	·04	·02	·22	·05	·05	·04	·07	·04	·01	·06	·06	..	..
13	..		..	..	·03	·02	..	..	·02	..	..	..	·09	·14	·01	..	·01	..	·20
14	·32		·30	·29	·41	·39	·34	·25	·45	·28	·40	·31	·23	·19	·25	·32	·32	·29	·06
15	·01		·02	·02	·02	·02	·02	·02	·01	·02	·02	·03	·02	·03	·01	·03	·03	·02	·02
16	·01		..	·02	..	..	..	..	·02	..	..	..	..	..	..	·01	·02	·01	..
17	..		·02	..	..	..	..	·01	..	..	..	..	..	..	..	..	..	..	..
18	·03		·05	·04	·04	·04	·05	·03	·04	·02	·04	·02	·02	·03	·03	·08	·02	·02	..
19	..		..	·01	..	..	..	..	·01	..	..	..	..	..	..	..	·01	..	..
20	..		·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..		·01	..	·02	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..		·02	·02	·02	·02	..	..	·03	·02	..	..	..	..	..	..	·01	·02	..
23	..		..	·02	·01	·02	..	..	·01	·01	..	·01	..	..	..	..	..	..	..
24	..		..	..	..	·01	..	..	·02	..	..	..	·04	..	..	..	..	·01	..
25	..		·04	·01	·03	·03	·05	·06	..	·01	·05	·03	..	..	..	·02	·03	..	·04
26	..		·01	..	..	·02	..	..	·01	..	..	·01	..	..	..	..	..	·01	..
27	·07		·02	·01	·01	..	·03	..	·02	·01	·02	·01	·02	·03	·02	..	·02	·01	..
28	·05		·03	·04	·03	·05	·04	·03	·03	·03	·03	·03	·02	·03	..	·06	·02	·02	·02
29	·05		·05	·05	·04	·03	·03	·01	·06	·04	·03	..	..	·06	·05	·04	·03	·03	·02
30	..		..	..	..	..	..	..	..	..	..	·04	..	..	..	..	..	..	..
31	..		..	..	·02	·01	..	..	..	..	..	..	..	..	..	..	..	..	..
*	2·29	2·62	2·39	2·16	2·53	2·27	2·06	1·54	2·64	1·96	2·52	2·12	1·98	2·05	1·75	2·24	2·25	2·02	1·70
†	21·63	21·92	20·53	20·46	21·81	19·93	18·95	12·60	22·12	15·58	22·66	20·22	20·78	20·86	14·88	20·38	20·66	18·83	17·51

MONTHLY REPORT.

* The figures in this row give the totals for the month.

† The totals from January 1st.

NOTES.

(December, 1904.)

The month has been warm, very foggy, and with a rainfall above the average. The most foggy portion was between the 19th and 27th. Owing to the frequent changes in temperature, the month has been an unhealthy one, colds and influenza being very prevalent, and in several places there were many cases of diphtheria and scarlet fever. Snow fell at Reigate, Upper Gatton, and Croydon on the 7th, at Nutfield and Wallington on the 8th, and at Upper Gatton and Greenwich on the 11th. Solar halos were seen at Greenwich and Epsom on the 5th and 11th, and at Upper Gatton on the 11th; whilst a lunar one was seen at Greenwich on the 15th, at Epsom on the 19th, and at Wallington on the 17th. Lightning was seen at Greenwich, Epsom, and Upper Gatton on the 7th. The rainfall varies from the average to about half an inch over the average. The mean temperature is about 1°·8 above the average, and was at Wallington 40°·8, at Croydon and Warlingham 40°·6, at Worcester Park 40°·4, and at Chipstead 39°·8. There were recorded at Wallington 34·9 hours of sunlight, which is 4 hours or two per cent. below the December average of the fifteen years 1886–1900.

F. Campbell-Bayard,
F.R.Met.Soc., *Hon. Sec.*

APPENDIX II.

Falls of 1 Inch and upwards.

January 27th.—Upper Gatton 1·06 in.; Chipstead 1·03 in.

January 30th.—Banstead 1·08 in.; Warlingham 1·04 in.; Kenley (Place Fell) 1·02 in.

May 26th.—Holmbury St. Mary 1·35 in.

July 25th—Greenwich 1·55 in.; Southwark Park 1·38 in.; Deptford 1·31 in.; Telegraph Hill 1·30 in.; Sidcup 1·27 in.; Eltham 1·20 in.; Nunhead 1·09 in.

July 27th.—Greenhithe 1·00 in.

August 31st.—Brockwell Park 1·03 in.; West Wickham 1·02 in.; South Norwood 1·01 in.; Croydon (Waddon New Road), Croydon (Windmill Road), Croydon (Ashburton Road), and Addington (Park Farm) 1·00 in.

October 6th.—Nutfield (old gauge and new gauge) 1·22 in.

December 6th.—Wandsworth Common 1·08 in.; Brockwell Park 1·07 in.; Kingston (Sewage Works and County Hall), 1·05 in.; Knockholt (field gauge) and New Malden 1·02 in.; Surbiton 1·01 in.; Hedley 1·00 in.

CONTENTS.

PROCEEDINGS.

TRANSACTIONS.

Croydon Natural History and Scientific Society.

OFFICERS FOR 1905.

President.—W. F. Stanley, F.G.S., F.R.A.S.

Vice-Presidents.—F. Campbell-Bayard, LL.M., F.R.Met.Soc.; Dr. H. Franklin Parsons, F.G.S.; W. Whitaker, F.R.S., F.G.S.

Hon. Curator.—N. F. Robarts, F.G.S.

Hon. Lanternist.—J. H. Baldock, F.C.S.

Hon. Librarian.—Alfred Roods.

Hon. Treasurer.—F. J. Townend, *11, Park Hill Rise, Croydon.*

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Hon. Secretary.—Geo. W. Moore, *15, Dornton Road, South Croydon.*